ETHNOLOGY OF PUKAPUKA

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Ethnology of Pukapuka

By Ernest and Pearl Beaglehole

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114 Scientific work on Pukapuka has heretofore been limited to two brief
accounts by Gill (10, 13)*, a paper by Hutchin (18), manuscript notes of a
127 short visit to the atoll by Bryan (5), and a brief account by Macgregor (20) based on a three-day visit to the island in April 1933. The work of Gill and Hutchin is slight and of no great value. Bryan's notes gave us a preliminary orientation and Macgregor generously placed at our disposal before we left Honolulu a manuscript copy of his paper on Pukapuka. We were thus able to check Macgregor's material in the field, and have not considered it necessary to refer to his work on every occasion where his observations are at variance with ours.

121 In the field, Ernest Beaglehole was especially responsible for collecting
128 material on social and economic organization, religion, traditional history, and material culture; Pearl Beaglehole for string figures, material on children, intimate aspects of family and domestic life, the household census, stories, and other textual material. The bulk of the manuscript was written by Ernest Beaglehole.

128 Certain records on which this study is based are filed in the library of Bernice P. Bishop Museum: lists of place names, names of land divisions, household lots and talo gardens, statistical records, native texts and notes.

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* Numbers in parentheses refer to Literature Cited, p. 412.

[1-2 blank]

128 Further material awaiting publication includes studies of string figures, myths,
stories and chants, and the life of children. A dictionary of the Pukapukan
dialect and a study of Pukapukan anthropometry are in preparation.

INTRODUCTION

125 We spent about seven and a half months on Pukapuka, from November 3,
1934, to June 13, 1935. For six months of this time we lived in a coral
114 lime house in the middle of Yato village. During the copra-making period
we lived for six weeks in a native house in the settlement of Ngake village
on Motu Ko.

124 Everyone on the island was interested in our work and willing to help.
Genealogies and traditional history were recorded at formal sessions in
ethnology carried on in the schoolhouse and later in the courthouse; as many
as 50 men attended these sessions. One man acted as spokesman. He was
interrupted frequently by those who thought he had made a slight error, and
many fierce arguments were conducted between upholders of conflicting views
before a compromise was reached and the discussion could proceed. More
select were later sessions in the courthouse, usually attended by about five of
the best informants. The systematic consideration of each phase of Pukapukan
115 culture was taken up in these more intimate sessions. Principal informants
were: Veti and Mitimoa, both over 65 years old; Elia and Pau,
124 both about 50 years old; and Talainga, about 40 years old. Pau was undoubtedly
the scholar of this group. Though comparatively young, he was
a keen student of things Pukapukan, equally well informed on all aspects of
the culture. Veti and Mitimoa were well informed in their own right but
functioned more as consulting authorities than as original informants. The
youngest of the group, Talainga, made up for disadvantages of age by keenness
and conscientiousness. At our suggestion he wrote several notebooks
full of old chants and stories which are models of Pukapukan prose and verse.
Elia was a reliable and willing informant. His wife, Molingi, about 33 years
old, was a most capable and enthusiastic informant on the women's aspects
of Pukapukan life. The high chief, Nawani, whose great age—about 100
years—rendered his memory unreliable, was unfortunately not a very valuable
informant.

[101] Our arrival on the island and our stated purpose to study the life of the
Pukapukan people with reference to the ways and customs of pre-missionary
124 times created something of a sensation. The process of rethinking themselves,
121 under our stimulus, back into past times and of recapturing past customs was
necessarily a slow one, but, once started, informants went ahead with enthusiasm
and interest. At first their memories were somewhat haphazard
and vague, but after several months of inter-group discussion and revival of
old chants, informants were able to speak with increasing assurance about
old-time practices.

124 609 As a gift to Bernice P. Bishop Museum, the people of Pukapuka generously made a complete collection of objects of material culture, excepting only the few objects which they can no longer make. A day-to-day study of the processes of manufacture was of great value in clearing up many problems of technology.

124 191 Whatever success our work achieved, therefore, is due to the enthusiasm and cooperation of our informants, in the first place, and also of the people of Pukapuka as a whole. Our early work was done entirely with the aid of interpreters. Much of Ernest Beaglehole's later formal work was done with interpreters because he did not wish to risk losing material through inability to follow crucial explanations. Informants could speak much Rarotongan but required the use of Pukapukan when discussing language and various concepts of native Pukapukan life. Our interpreters could speak easily only the Rarotongan dialect. Thus a great deal of explanation between informant and interpreters was necessary before the final English version could be presented to us. For this reason and also because many subjects can not be discussed easily through the medium of a third person, Pearl Beaglehole accepted the necessity of doing without interpreters at the earliest possible moment.

CULTURE CONTACT

177 797 167 Pukapuka was discovered by Commodore Byron in 1765. Between that time and the landing of the first native missionaries of the London Missionary Society in 1857, the island was probably rarely visited by Europeans, presumably because of its isolation and the poverty of natural resources. Native tradition tells of three European ships which visited Pukapuka during these years. Between 1857 and the visit of the Reverend Wyatt Gill in 1862, most of the people of the island had been converted to Christianity. Peruvian slavers twice visited the atoll about 1863 and removed about 100 men and women, only one of whom, the late high chief, Pilato, returned to Pukapuka. [101 163] In 1869, Captain English of the barque *R. W. Woods* (6, p. 33) landed in Honolulu 42 natives of Danger Island.[1] The natives were unsatisfactory both as plantation laborers and as domestic servants and some time later 20 of them were sent back to Pukapuka by the schooner *Annie*, Captain Babcock. A man from Atiu named Tione, according to the Pukapukan account of this labor gang, returned with the Hawaiian party and later married a Pukapukan woman named Tulale whom he had met in Hawaii.

177 642 794 The island was formally annexed to Great Britain in 1892 and included within the boundaries of New Zealand in 1901. The first resident agent visited the island in 1914, and since that year agents have been in residence most of the time. The majority of the people are members of the London Missionary Society church. A Seventh Day Adventist mission was started in 1919, a Roman Catholic mission about 1929. All three missions are served by native pastors.

[1] [Pukapuka—analyst]

177 served by native pastors. Communication with the outside world during the
past years has varied considerably, depending on the rise and fall of the price
431 of copra. For some time a Burns Philp trading schooner has visited the island
twice each year to buy copra, to trade, and to carry mail, but this service is
265 now discontinued with the closing of Apia as port of entry for Pukapuka.
A warship of the New Zealand station usually makes an annual visit to Pukapuka. There is now occasional direct communication between Pukapuka and
Rarotonga, headquarters for the Cook Islands Administration.

177 The effect of the contact with white culture upon native Pukapukan culture
has been out of all proportion to the general lack of communication between
797 the atoll and the outside world, due to the zeal of the native London Missionary Society pastors. Customs and practices associated with the old-time re-
771 ligion have been wiped out; religious structures have been destroyed, and the
stones of which they were constructed used to build houses and the causeway
692 that joins old and new Yato villages. Social organization has not been much
affected beyond the breaking down of the power of the chiefs and their
602 supersession as governing authorities by an authority set up under the Cook
Islands Act. Old kinship avoidances show signs of falling into disuse among
the younger generations, though they are strictly followed by the older people.
Traditional history and genealogies are still well remembered.

177 The Pukapukan language is being gradually superseded by the Rarotongan
as the language of church and government. The native missionaries have
797 all been Pukapukan or Rarotongan, trained in the Rarotongan mission schools,
and the Rarotongan dialect has been the language used by missionaries in
191 the Cook Islands. The Bible used is in the Rarotongan dialect, and today
Rarotongan is taught in the school by the present missionary and spoken
exclusively by the resident agent. Very old people still speak fairly pure
Pukapukan among themselves; some middle-aged people follow this example
but use Rarotongan for church and state business; others tend to speak Rarotongan exclusively. Younger people who have passed through school tend
to speak Rarotongan for all purposes and often find old Pukapukan speech
or idiom difficult to understand. The old chants are remembered in Pukapukan, though they contain many archaic words which even those with a full
[124] and ready knowledge of Pukapukan can not understand. We insisted on
informant's using the Pukapukan dialect as far as possible in their communications with us, as this was the only way to compile a vocabulary of the
dialect; many were the arguments over the admission of various words to
our lists of Pukapukan words.

177 The morality of the community has of course been vitally affected by
missionary influence. As a result there is a wide breach between the moral
797 theory on which the community is supposed to operate and the actual code
577 of conduct followed by the majority. The life of the young people in its

177 more personal aspects particularly is frowned upon by elders in open but
tacitly approved in fact. In contact with white people the Pukapukans always
577 speak and act as if they heartily believed and followed the missionary code.
797 It took us many months to persuade them that we did not care to pass judg-
ment upon what they thought and did but that what really interested us
123 was to find out what these acts and thoughts were. As informants gained
609 confidence in us, they dropped their usual attitude of "being on their best
behavior" when we were present and were much more natural and free.
This attitude of confidence was sufficient for us to gain insight into some of
the more implicit phases of Pukapukan life, but even at the end of our stay
we were baffled in our attempts to penetrate far below the surface. The
cultural veneer of mid-Victorian morality is sufficiently deep to withstand any
penetration save that based on long years of patient probing.

177 White contact has affected least of all the economic life and the manu-
facture of native articles. Though many Pukapukans today live in coral
777 lime houses in the permanent villages, native houses still predominate, espe-
291 cially in the copra-making villages. The people wear European clothes; the
women wear dresses, the men trousers and, when not working, shirts as well.
342 The use of native clothing had almost disappeared by 1934. Because there
has been little money available to buy fresh clothes some women now eke
out the life of old rags by wearing coconut-leaf kilts over these during
working hours. Boys under 12 or 13 years of age go naked for the most
part, reserving pants and shirts for school and church wear. Girls wear
dresses from the tenderest age onward. Presumably this tendency would
be reversed if the first missionaries had been women.

177 Every household is supplied with knives, usually a cooking pot, tins as
drinking utensils, and mosquito nets. Fishermen commonly use iron fish-
411 hooks but they still largely retain the use of native fishlines. Native plank
canoes, lashed with sennit, are in common use, the several flat-bottomed
227 European boats being used only for transport of copra and cargo over the
501 reef. Beyond these obvious changes, economic life functions today largely
according to old patterns. The few items that could not be made for the
Bishop Museum collection consisted mainly of plaited garments apparently
infrequently worn in the old days.

LIMITATIONS OF MATERIAL

124 Data on the more personal and implicit aspects of the culture were
obtained from special informants with whom we had built up a confidential
127 friendship, usually without the medium of an interpreter. The material on
formal social life, save where it relates to the old-time governing authorities,
to the powers of the chiefs and elders, or to the general tapus surrounding
the chiefs, is reasonably reliable. Questioning of informants has been sup-

124 127 plemented by an analysis of texts. The texts themselves, of which only a few examples are given in this monograph, and the vocabulary have been checked and rechecked with informants and may be taken as representing with fair accuracy the Pukapukan dialect. Data on economic life and the material culture are reliable. The material on Pukapukan religion and its interrelations with other aspects of the culture, particularly with economic and social life, is definitely weak and represents a type of historical reconstruction based on informants' accounts supplemented by textual material. None of the informants were living during the days when Pukapukan religion actually functioned.

121 128 This study of Pukapukan culture is, in the main, a presentation of the more formal patterns of behavior which have been abstracted from the total culture by ourselves or our informants. It is likely that the contents of this monograph, if imputed to one or all of our informants, would in no sense be recognized by him as significant formulations of all his cultural experience. We believe he would recognize that the majority of the statements contained herein hold true in one sense or another for some aspect of his experience, and it is this belief and the fact that the formal patterns of Pukapukan society configurate fairly well with the patterns of other Polynesian communities that are the sole guarantee of the measure of truth in the generalizations presented.

[184] The ideas and action patterns grouped together under the title of Pukapukan ethnology would have endlessly different meanings for the various informants. It is just these personal valuations, symbolisms, and implications which the cultural set-up of modern Pukapuka makes so difficult to annotate and which attest to the continued vitality of Pukapukan culture as a functional entity. Much of Pukapukan culture as here presented is the peculiar property of but few individuals in Pukapuka today. The imprint of informants' personalities is contained in all the information so freely imparted, but it is woven into the context of the information in a fashion that defies analysis, though it is none the less real. This is most striking in the realm of religion or in the chants. Full participation in the latter as a cultural value is probably limited to no more than a few individuals of the 600 odd Pukapukans living on the atoll today. The remainder have vague or ill-defined ideas about the meanings of obscure passages in the chants, though any vigorous-minded Pukapukan will, on challenge, make up immediate rationalizations to cover his own lack of authentic understanding. This in no way vitiates the value of these chants as an aid to the recapture of old-time customs. These customs and symbolisms are preserved in them, waiting only for the analyst's attention.

The following pages attempt to work out the main forms of Pukapukan culture, to hint at certain time sequences, and to indicate a few geographical

121 128 affinities with other Polynesian systems. This provides the objective background for studying the meaning of these patterns for the personalities of those who live within the frame of reference called Pukapukan society. This task is touched upon in the data on children (2). If certain problems of symbolism, pattern status, emotional conditioning, and all that makes up the dynamics of culture have been largely overlooked in these pages, it is not through unawareness of the existence and importance of these problems but solely because the type of field work represented by this and other manuscripts is that which it was most practicable to carry to a conclusion.

NOTE ON PHONETIC STRUCTURE

194 [128] Throughout this monograph Pukapukan words are written in the ordinary English alphabet, in accordance with standard usage for Polynesian ethnology. Obviously such recording represents only an approximate rendering of the true sounds and words of the language.

The symbols *k*, *p*, and *t* represent the intermediates between sonant *g* and surd *k*, between *b* and *p*, and between *d* and *t* respectively; *k* is pre-palatal before the vowels *e* and *i*, post-palatal before *a*, *o*, and *u*—it is never aspirated; *p* is aspirated only before the vowel *u*; *t* is always dental and unaspirated.

The lateral, *l*, is dental. The nasals are *m*, a dental *n*, and the front palatal *eng* (*ng*). The semivowel *w* functions as a major consonant; when it occurs within a word before *u* or *i* (as in the words *mawu*, *awi*) it has a guttural quality.

Finally, there are the bilabial spirant *v*, voiceless and unaspirated, and the voiceless interdental spirant, not previously recorded for a Polynesian dialect. This spirant (corresponding to the *th* in English "thin") is invariably palatalized, followed by a *y* slur ("thin" with a *y* inserted before the *i*, "thyin"). This compound sound (θʸ in certain phonetic systems) is rendered by the symbol *y* in this monograph, but is not to be confused with the ordinary *y* semivowel which does not occur as a Pukapukan consonant. The Pukapukan voiceless interdental spirant palatalized is the sound mistakenly described by Macgregor (20, p. 3) as a glottal closure accompanied by "an added breath . . . giving a sound of *i* consonant," and written by him *'i*.

The glottal closure as an independent consonant is absent. The consonants are never long.

The vowels *a*, *e*, *i*, *o*, *u* all have the continental values. In rapid speech, however, a short *a* is pronounced as *u* in English "but"; short *i*, especially before *ng*, as *i* in English "pin". Final *i* after *t* tends to be voiceless.

Quantity and quality of vowels, presence or absence of diphthongs, and the location of stress are not indicated in native words. These phonetic characteristics are reserved for treatment in a Pukapukan dictionary which will include also the general rules of pronunciation governing accent.

194
197

Table 1. Comparison of ɣ and w with other Polynesian consonants.*

	PUKAPUKA	NEW ZEALAND	SAMOA	NIUE	TONGA	UVEA	ONTONG JAVA	HAWAII	MARQUESAS	RAROTONGA	TAHITI	MANGAREVA	EASTER ISLAND
	ɣ	h	s,-	h	h	h	h, s	h	h, f	'	h	'	h
To walk	yaele	haere	(saele)	haele	haele	haele	haele	haele	hee	'aere	haere	'ere	ahere
To err	yala	hara	sala	hala	hala	hala		hala	haa	'ara	hara	'ara	hara
To do	yanga	hanga	anga	(hanga)	(hangahanga)	hangahanga		hana	hana	'anga'anga	ha'a	'anga	hanga
Pregnant	yapu	hapu					sopo		hopu		hapu		
To tie	yele	here		hele	hele			hele	fee	'ere	here	'ere	here
To mix	yeuyeu	heuheu			heuheu				feu	'eu	heu		(heu)
Tail	yiku	hiku	si'u; i'u	hiku	hiku	hiku		hi'u		'iku		'iku	iku
Gray	yina	hina	sina	(hina)	hina			hina	hina	'ina	hina	'ina	
Friend	yoa	hoa	soa	(hoa)	hoa	hoa		hoa	hoa	'oa	hoa	'oa	hoa
Spittle	yuvale	huware									huare		
	w	wh, h	f, s	f	f	f	h	h	f, h	'	f, h	'	h
Four	wa	wha	fa	fa	fa	fa		ha	fa, ha	'a		'a	ha
To make	wai	whai	fai	fai	fai	fai			fai, hai		fai		hai
Caus. prefix	waka	whaka	fa'a	faka	faka	faka		ha'a	haa, haka	'aka	haka, faka	'aka	haka
House	wale	whare	fale	fale	fale	fale	hale	hale	hae, fae	'are	fare	'are	hare
To go	wano	whano	fano	fano	fano	fano	hango				fano		
Land	wenua	whenua	fanua		fonua	fenua	(hengua)		fenua, henua	'enua	fenua	'enua	henua
To want	wia	hia	fia	fia	fie	fia		hia	fia, hia	'ia	hia		
Paddle	woe	hoe	foe		fohe	foe	hoe	hoe	hoe	'oe	hoe	'oe	hoe
New	wou	hou	fou	fou	fou	fou		hou	hou	'ou	hou	'ou	hou
To swallow	wolo	horo	folo	folo	folo	folo			hoo		horo	'oro	horo
Seed	wua	hua	fua	fua	fua	fua	hua	hua	hua	'ua	hua	('ua)	hua
To open	wuke	huke	su'e	fuke	fuke	fuke				'uke			

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* This table reflects all the limitations of the phonetic and dictionary material available for present study.

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The main body of Pukapukan sounds presents no special features of comparative interest. But the two consonants ɣ and *w* are peculiar members of the otherwise usual Polynesian consonantal system. The Pukapukan *w* is not to be confused with the sound which is recorded as *w* in some dialects and which is probably more correctly described as the intermediate β, a sound found in primitive Hawaiian and in Rarotongan. Table 1 indicates the role of ɣ and *w* in widely distributed Polynesian words. On the information of Te Rangi Hiroa (Dr. Peter H. Buck), the *h* mistakenly recorded by Tregear (30) for Mangarevan is here discarded. It is regrettable that the presence or absence of the glottal stop as a consonant has in too many Polynesian dialects become a matter of considerable mystery.

In New Zealand, both *h* and *wh* are used before the vowels *a*, *i*, *e*, but *h* is required (in most words) before the vowels *o* and *u*. In no other dialect, except Tahitian, is this distinction evident. Maori *wh* equates with the simple Pukapukan *w*, Maori *h* with the Pukapukan ɣ or *w*. Maori *ha* and *he* tend to change to Pukapukan *ɣa* and *ɣe*; Maori *hi* sometimes becomes Pukapukan *ɣi*, more often Pukapukan *wi*. A more consistent rule of consonantal change is evident in comparing Pukapukan and Samoan, where Pukapukan ɣ becomes Samoan *s* and Pukapukan *w* becomes Samoan *f*. In Niue, Tonga, and Uvea, Pukapukan ɣ changes to *h*, Pukapukan *w* to *f*. In Hawaii, Rarotonga, Tahiti, Mangareva, Easter Island, and probably also Ontong Java, one consonant only (*h* or ') occurs in the several words where western Polynesian dialects distinguish between *s* and *f*, or between ɣ and *w*.

The most striking similarity to the Pukapukan sound ɣ occurs not in Polynesia proper, but in Fiji. Hazelwood (17, p. 1) describes for Fiji the consonant he writes *c* as "*th*, as in that or this; not as in thick." It appears, therefore, that this sound is the voiced interdental spirant, ð. In some words in which this Fijian consonant occurs it corresponds to the Pukapukan ɣ[1]: *ɣala* (to err), *cala*; *ɣau* (breeze), *caucau*; *ɣiɣi* (to split), *cici*; *ɣila* (to shine), *cila*; *ɣoka* (to spear), *coka*; *oɣo* (provisions), *oco*; *ɣula* (to fasten), *cula*; *ɣuki* (to pierce), *cuki*.

In other words, the Fijian ð is used before or between vowels where corresponding words in Pukapukan require no consonant: *akau* (reef), *cakau*; *angi* (to blow), *cangi*; *ama* (outrigger), *cama*; *iva* (nine), *ciwa*; *moe* (to sleep), *moce*; *woe* (to paddle), *voce*.

Pukapukan informants were not consistent in their use of the ɣ at the beginning of certain words. Alternately, for example, they said *iliili* (to ask) and *ɣiliɣili*. This, together with the fact that few Pukapukan words collected commence with a vowel, gives me the strong impression that formerly a ɣ preceded all vowels now commencing words. If this is true, then

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[1] In the following comparisons the Pukapukan term is given first, followed by the translation in parentheses, and the Fijian term.

194 the group of words in which Fijian ð appears between vowels is not properly distinguishable from the words where Fijian ð corresponds to Pukapukan θ'.

197 In another category, however, Pukapukan θ' is replaced by the Fijian *s*, said to be pronounced "as in English": *yanga* (to do), *sanga*; *yelu* (to comb), *seru*; *yeye* (foolish), *sese*; *yeu* (to mix), *seu*; *yika* (netting needle), *sika*; *yinu* (oil), *sinusinu*; *yua* (water), *suasua* (wet).

Like the ð sound, Fijian *s* occurs in some words where no Pukapukan consonant is now used: *ala* (path), *sala*; *angaanga*[8], *sangasanga*; *olo* (to rub), *solo*.

I find no suggestion in the literature that the Fijian ð is ever palatalized, though this is invariable with the Pukapukan θ. But the semivowel *y* is another Fijian consonant used in some words where Pukapukan requires no consonant: *ate* (liver), *yate*; *atu* (row), *yatu*.

In a few Fijian words y corresponds to Pukapukan θ': *yala* (to encircle), *yalo*; *yau* (to come), *yau* (to come or go); *yau* (dew), *yauyau* (fog or mist).

The sound θ appears in the Melanesian sound system as worked out by Ray (23,p.30). It is noted in particular for Nengone and Lifu of the Loyalty Islands and for Aneityum in the southern New Hebrides (23,pp.77,139). Because of inadequate linguistic material it is impossible to determine the relation between this Melanesian sound and the voiceless spirant of Pukapuka.

Pukapukan *w* is Fijian *v*. Other consonants seem to correspond in words common to both as follows (Pukapukan given first): k, k; k, ngg (q)?; l, l; l, ndr; m, m; n, n; ng, ng; p, mb; t, t; t, nd; v, w.

It is regrettable that paucity of phonetic material for any Fijian dialect renders it impossible to draw conclusions, but when trustworthy phonetic and ethnographic material becomes available for the cultures crudely lumped together today as Fijian, it is not unlikely that phonetic and cultural anomalies found in the otherwise prevailing Polynesian culture of Pukapuka will prove no longer to be unique but part of a western sub-culture that may be traced from its eastern boundary in Pukapuka across to, and beyond, Fiji.

POPULATION

161 The population for the years for which figures are available (7) is as follows: 1906, 435; 1911, 490; 1916, 474; 1926, 526; 1935, 632.

731 The increase in population from 1906 to 1911, followed by a decrease in 1916, is at least partly explained by the fact that 52 Pukapukans were transferred to Rarotonga in September 1914, in order to relieve distress caused by the tidal wave that swept Pukapuka in January of that year. The population today shows a great increase over the population figures of 1916 and 1926. Records for 1933 and 1934 show a total of 41 births as compared

167

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[8] Pukapukan informants held that the reduplicated form of the word *yanga* is not *yangayanga*, but *angaanga*.

1:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

161 Records for 1932 and 1934 show a total of 41 births as compared with 22 deaths, which indicates that the population is increasing steadily. The vital records of Pukapuka are not complete. An analysis was made, however, of the offspring for 16 marriages, where reliable figures were available. 163 These 16 marriages produced 77 children, a ratio of 4.8 children for each marriage. Of these children, 39 died before reaching the age of 20 years, 165 a mortality rate of 50.6 percent. This seems to indicate a stationary population, but the fact that the population is increasing shows that the analysis is not typical of conditions today, even though it was perhaps true a number of years ago.

162 The population of each village of Pukapuka (as of June 16, 1935) is:

	NGAKE		LOTO		YATO		ISLAND TOTAL	
	M	F	M	F	M	F	M	F
Adults	84	80	54	67	61	48	199	195
	164		121		109		394	
Children	101		64		73		238	
Totals	265		185		182		632	

[631] These village figures, supplied by Geoffrey Henry, are based entirely on village lists made up for divisions of food and of copra money. They include all the people who affiliate (*tau*) with the named village, irrespective of village residence. The figures for adults include all those males and females who have attained sociological adulthood (*wakatane* or *wakawawine*), that is, all persons above the age of about 16 years, who receive adult shares in village food divisions.

From our own census data it was possible to work out the approximate sex ratio for 348 people:

	Adults	Adolescents	Total Adults	Children	Total
Male	88	18	106	77	183
Female	93	11	104	61	165
					348

In this list, the term "adults" includes all persons married or past marrying age; "adolescents" includes all persons between 15 years and marrying age; "children" includes all below 15 years.

The number of children does not agree, of course, with those given by the resident agent, because the villages do not list their children in terms of sex, which is unimportant for food divisions. The village figures show a ratio of 97.9 females to every 100 males; the census figures, 98.1 females to every 100 males.

PHYSICAL CHARACTERISTICS

144 Anthropometric measurements made on 230 living adults have been forwarded
to Dr. Harry L. Shapiro for analysis. About 25 individuals measured
563 were of mixed blood; the remainder were full-blooded Pukapukans, an equal
number of males and females. The amount of racial or of early interisland
mixture is not great. Two Manihikian women, castaways, married and settled
down on the island about 10 generations ago. Recent intermixture with
whites is readily observed. There is no discrimination against or in favor
of those of mixed blood. The average stature of Pukapukan men and women
142 is noticeably less than that observed for other Polynesian groups. Women are shorter than men. The presence of the epicanthic fold was noted in several individuals. The glabella is more prominent in men than in women. Face type seems to vary between a narrow, long face with a long nose and a wide face with a short, broad nose. It is possible that analysis will reveal two physical types based on these distinctions. Lips in general are thin or medium thick. The hair is black; low and medium waves are common. Body hair is scanty on both sexes. Skin color is a light brown which becomes very dark on prolonged exposure to the sun. The skin color of infants is extremely fair.

MOTOR HABITS

516 Little sex differentiation was observed in motor habits. The common position in sitting is "turkish fashion". The legs are crossed with knees bent and resting on the inside portion of the sole of the foot, the outside edges of the feet resting on the ground. A common variation is to raise the right foot and rest it on top of the left knee. This is the position for all sedentary activities, whether mat plaiting, food preparation, sennit making, or simple rest. Only a man braiding sennit sits with outstretched legs; he loops the free end of the sennit round the toe of an extended foot to obtain a tension on the cord.

481 The bent-knee gait is common in walking. Apart from individual walking
habits due to previous yaws infection of feet and legs, the common habit
[164] is to walk with the palms hanging at the side and turned inward, the toes pointing straight ahead. Running and jumping habits seem to be similar to those of the ordinary unskilled white person. Children crawl on hands and knees and on hands and feet.

513 Both sexes lie and sleep (*moe*) in a wide variety of positions, on the side,
prone, or supine. The Pukapukan distinguishes by descriptive names more
192 than thirty-five different types of sleep according to position, movements during sleep, and soundness of sleep. The amount of sleep for adults varies from 4 to 8 hours each night, sometimes with an hour or more of extra sleep during the day. Young children sleep whenever they are tired. Children

857 Young children sleep whenever they are tired. Children
513 from about 6 years of age onward average about 8 hours of sleep each night. Fires are occasionally kept burning late into the night when mosquitoes are troublesome.

514 Men micturate in a standing position; women squat on the heels or stand with knees bent. Both sexes defecate in a position squatting on both heels.

412 Cutting habits vary according to the instrument employed. In general, a knife is moved away from the body, a native cutting or scraping instrument toward the body. Adzing is, of course, toward the body.

483 Heavy weights, such as canoes, are lifted from the ground with the arms in front of the body and carried just clear of the ground. A house roof is carried on the shoulders of a number of men who get inside the roof while it is on the ground and hoist it onto their shoulders. A few coconuts are
482 carried in the hands, with or without a basket; a large number are balanced on the shoulder. Many coconuts are carried on a rough carrying pole, weighted at both ends and balanced at its middle point on the shoulder. The right shoulder is generally preferred. Women generally carry weights balanced on the head, using a pad made of a bunch of leaves placed between the head and the burden.

481 Climbing coconut trees and coconut husking are described on page 86.
515 Swimming is naturally acquired behavior and is not taught to children. Pukapukans are not great swimmers or divers, but use the sea mostly for bathing,
526 when they run or wade from the beach and then suddenly duck. Children are in the water a great deal; they play at water splashing, surface diving, and underwater swimming games. Adults rarely play swimming games. In diving for *Tridacna* shellfish, adults dive from the surface by elevating the buttocks and depressing the head.

516 Casual observation indicates that left-handedness (*lima mayui*) is common in both children and adults. This was observed in adults in the use of implements and in the handling of darts in games, in children when dancing.

The toes are used extensively for picking up objects from the ground and for holding objects when both hands are engaged and when purchase is required.

561 Both men and women pole and paddle canoes today. The individual poles a canoe sitting, standing on the floor of the canoe, or standing with one foot on each gunwale. Paddling is done on either side of the canoe with equal ease. The paddle is grasped with both hands, fingers pointing to the front, thumbs to the rear. It is unusual for a canoe crew to sing or chant in rhythm
[461] to the paddling. The paddle is plunged vertically into the water and the stroke is fore and aft. Two types of strokes are used: *ole atu pole* is a long, even, powerful stroke with the full stretch and strength of arms and shoulders, dipping the paddle blade deep into the water, and used for long distances when consistent power is required; *ole [illegible]* is a short, quick, shallow stroke.

501 almost a jab of the blade into the water, used when a sudden spurt of speed
is required to take advantage of a following wave to shoot across the reef.
In steering, the paddle is struck into the water as far away as possible and
then pulled back through the water.

GESTURES AND EMOTIONAL EXPRESSIONS

201 Various conventional gestures are used for communication without speech.
Affirmation (*wakatika*) is expressed by raising the two eyebrows without mov-
ing the rest of the face. Used in answer to a negative question, the gesture
indicates that the statement in the negative is correct. Doubt is expressed
by screwing up the nose and mouth, wrinkling the forehead, at the same time
nodding the head. A distant place or person is indicated by pointing with
the forefinger. In beckoning to a person, the arm is flexed with the palm
pointing toward the person addressed, and the fingers are closed against the
palm and quickly opened. The motion is repeated if necessary. Height is
indicated by the outstretched arm, palm pointing to the ground. The size
of a fish is always indicated by marking off its approximate length with the
261 fingers of one hand on the other arm. A gesture of insult consists in point-
ing the fundament toward the person insulted; at times the gesture is ac-
578 companied with words like "Tau lamokano" (Your anus). Pointing and
shaking of the forefinger accompanies the hurling of verbal insults at another
person. Other attitudes which occur in story telling are mentioned else-
201 where (1). Concentration or the exertion of intense physical effort is marked
609 by semi-protrusion of the tongue, grinding of the teeth, or contorting of the
face. Shyness or embarrassment in the presence of white people is shown
156 by women and children turning away the head, or lowering the head and
covering the mouth, nose, and lower part of the face by the palm and spread-
out fingers of the hand. No man was ever observed displaying this gesture.
869 Naked children who become suddenly self-conscious at the approach of a
white person cover the genitals with the hand.

Display of affection is marked by pressing the nose against another per-
201 son's face or other part of the body, at the same time inhaling (*yongi*)
576 through the nose. The nose is often applied to the back of the hand of a
white person. An excellent account of leave-taking after a visit is given in
832 detail in the story of Te Malo and Totoloa (1). The common greeting on
the road is "Ka wano koe ki wea?" (Where are you going?). The person
addressed answers in detail or in evasion according to his inclination.

827 Sneezing is a sign that someone elsewhere is talking about the sneezer,
probably in a gossipy or scandalous fashion. Yawning merely expresses
bodily fatigue.

516 Both men and women are noticeably given to the habit of leaning against
156 each other in close bodily contact on every occasion. A group of men stand-

511 ing watching a competition such as coconut husking, or sitting and talking,
156 wrap their arms about each other and lean on each other's shoulders. Though
any adult adopts this position, it is particularly striking to the observer when
it occurs among men. When relaxing, women lean against other women.
A woman frequently lies with her head on the lap of another woman. Less
frequently, a young woman, watching a group sport, leans against an older
man and wraps her arms over his shoulder. Occasionally the older man
may rest his head in her lap. These attitudes, taken up in large or small
gatherings, occasion no comment of any nature nor any embarrassment to the
parties concerned.

ENVIRONMENT

Topography

131 The atoll of Pukapuka lies about 390 miles northeast of Samoa, 715 miles
167 northwest of Rarotonga. Its nearest neighbor, Nassau, is about 42 miles
southeast and was formerly occupied by a colony from Pukapuka.

Pukapuka consists of three islets with a land area of 1,250 acres, and a
few sand banks grouped around a barrier reef (fig.1,*a*) that encloses a lagoon
about 5 miles long and 2 to 3 miles wide. Pukapuka, the northern islet, is
about 1 mile wide and has a greatest depth of about ½ mile. The entire
311 population of the atoll lives on the lagoon shore of Pukapuka (fig.1,*b*). The
401 word Pukapuka has no meaning but various etymologies. The old name for
the atoll, Te Ulu-o-te-watu (Head-of-the-rock), refers to the legendary origin
367 of the islands and is commonly used in old chants. The occupied part of this
103 islet is generally called Wale (Home). The two southern islets, Motu Ko
and Motu Kotawa, form reserve food lands (*motu*—translated throughout
as reserve) and are visited occasionally for food and copra supplies. Each
reserve has a small permanent settlement of houses occupied during these
visits.

361 The landing passage (*ava*) on the western side of Pukapuka (Wale) is used by
505 canoes and flat-bottomed boats only. All supplies and passengers are transferred outside
the reef to native canoes for transport across the reef to the landing beach. The western-
491 most section of the islet is occupied by the people of Yato village. This village extends
across the causeway which spans an arm of the lagoon and occupies further ground east
166 as far as the present London Missionary Society church. Formerly this eastern site was
the only site of Yato village. The building of the causeway about 60 years ago and an
164 epidemic sickness suggested the transfer of part of the village to its present western site.
The boundary of this village runs from the lagoon beach through the middle of the church
and so to the outer beach. The section of land north of the village road embraces one
423 reserve of Yato called Niua. The other reserve is Motu Kotawa.
361 The houses of Loto village are contiguous with those of the eastern section of Yato.
They stretch along the lagoon and across the island to the outer beach, a location adopted
731 after the tidal wave of 1914. North of the village road running through Loto stretches
the only reserve of Loto, Uta, which extends to the outer beach. The third and eastern-
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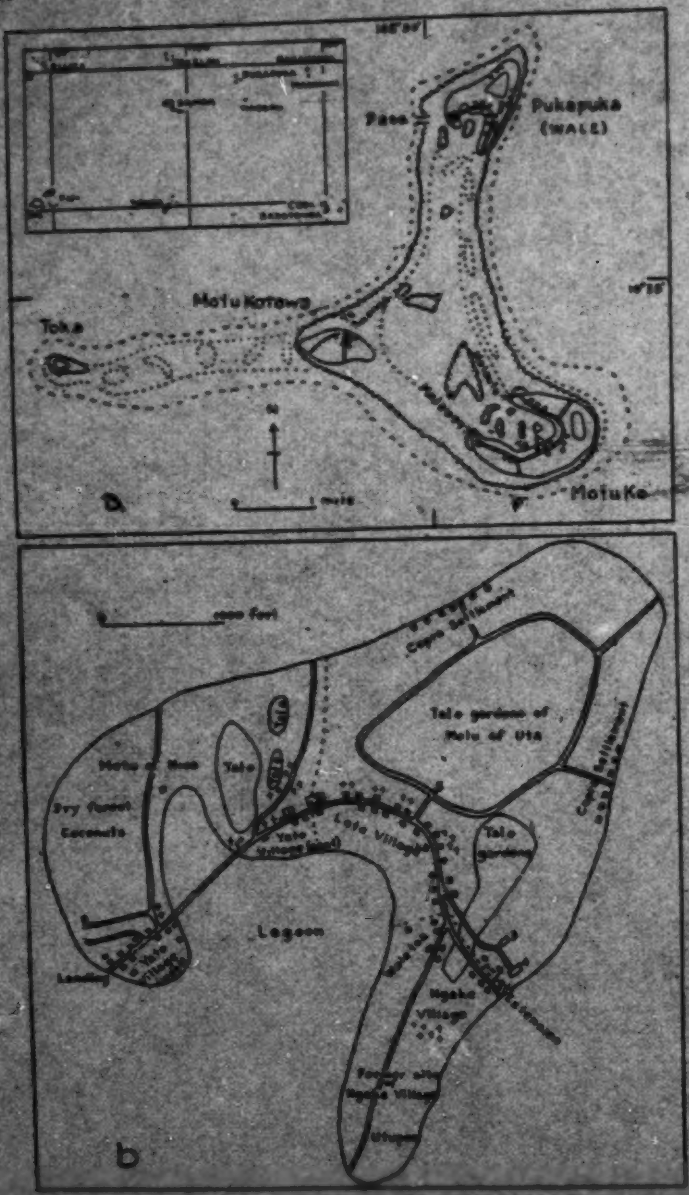
165°50'
Pass
Pukapuka
(WALE)
10°55'
Motu Kotawa
Toka
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0 1 mile
a
Motuko
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Motu of Uta
Dry forest
Coconuts
Taro
Yato Village
Loto Village
Taro gardens
Lagoon
Landing
Ngake
Village
Former site
Ngake Village
b

FIGURE 1.—Maps of Pukapuka. a, atoll of Pukapuka, showing relation of the three islets, and reef circuit. b, islet of Pukapuka or Wale: dotted lines indicate village boundaries, solid lines main paths, and crosses principal cemeteries. 1, school; 2, London Missionary Society church; 3, courthouse; 4, residency; 5, old watch house at Motuko.

361 next village, Ngake, formerly occupied Utupoa, the southeastern arm of Wale. After the
wave of 1914, houses were rebuilt on the lagoon frontage contiguous to the houses of Loto,
731 and other houses were built on a section of land extending from the lagoon to the outer
beach. This section of Ngake faces the outer beach extension of Loto. The two exten-
423 sions occupy opposite sides of the village road. The reserve of Ngake is Motu Ko. Land
at Utupoa is also used as a reserve, but sections here are owned by individual lineages and
621 not by the village as a whole.

All three islets are intersected by paths and trails. The main road (ayatuala) of
Wale extends from the landing beach, through Yato, across the causeway, and through
491 Loto. One branch makes a right-angled turn and passes to the outer beach, to the court-
house, residency, and the outer sections of Loto and Ngake. The other branch runs
487 through the lagoon section of Ngake. Formerly it led to the Utupoa site of Ngake. This
wide main road is well kept and bordered by coral stones. From it branch off trails and
smaller paths leading to the outer beaches and the reserves. These paths, as well as the
many paths on Motu Ko and Motu Kotawa, are named after persons, either contempo-
raries or those now dead, who originally cut the clearings through the bush. Contempo-
raries cheerfully accept the responsibility of keeping their paths clear, and descendants
of those after whom the paths are named accept the same responsibility.

Each village and reserve has a number of alternate names that are frequently referred to in chants and conversation:

103

VILLAGE OR RESERVE	OLD NAMES	REMARKS
Ngake	Pusa-ule	'Erect-penis'
	Te Yawea	—
	Te Langaulula	Refers to kilts (titi) of pandanus dyed red, worn by Ngake villagers at festivals.
	Kilimanu	'Bird Skin', name taken when birds were plentiful on Motu Ko.
Loto	Avaiki	Name of legendary land.
	Kotipolo	'Cutting of polo leaves'.
	Yaumala	—
Yato	Takaumami	'Circle' ?
	Ulekawa	'Penis-of-scrotum' ?
Motu Kotawa	Te Nuku-ya-o-Matalīki	Sacred-isle-of-Matalīki'
Motu Ko	Te Nuku-loa-o-Matalīki	Long-isle-of-Matalīki'

The western half of the lagoon, including Motu Kotawa and the western half of Wale, is also called Te Lau-la-lalo no Te Ulu-o-te-watu (Lower-part-of Head-of-the-rock). The eastern half, including Motu Ko and the eastern half of Wale, is called Te Lau-la-lunga no Te Ulu-o-te-watu (Upper-part-of Head-of-the-rock).

PLACE NAMES

A list of 140 representative place names, including all the names of paths and trails, talo gardens, land section, household lots and other division names collected in Pukapuka, is on file in the library of Bernice P. Bishop Museum.

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[4] [illegible]

103 There are names for every section of land, reef, and beach on the atoll, indicating the close association of the Pukapukan with his environment. The most important place names are marked on the accompanying maps (fig.1,*a*,*b*).[1]

CLIMATE

132 Records for the years 1930-35 (21) show that the mean temperature ranges between 80.9 and 83.9 degrees F., maximum temperature between 86.8 and 92; minimum temperature between 67 and 75 degrees. The average maximum absolute temperature throughout the year is 92.2 degrees and the average minimum absolute temperature is 67.4 degrees. Both minimum and maximum temperatures vary but slightly from month to month throughout the year, and the climate in this respect is equable.

For the period of record, the annual rainfall varies between 113 and 156
inches with an average of 128.41 inches. The season of heaviest rainfall is
October to March, but heavy rains are recorded for April and May (1932,
132 1934), May and June (1931). In January 1935, after three days of con-
tinuous rain, 10 inches of rain fell in the next 24 hours. The amount and
244 distribution of rainfall are important in the cultivation of swamp talo. A
heavy rain floods the talo beds. After a heavy rain, the most desired weather
is shady, cloudy skies, for if the rain is followed by brilliant sunshine for
several days the submerged talo swamps may be heated to such a temperature
before the water drains into the ground that the talo is killed. During the
dry months, May to September, the rainfall is generally insufficient to bring
talo to maturity. In bad years, the talo swamps may dry up altogether and
most of the tubers die. It then requires from 6 to 12 months before the
132 new tubers are mature enough for food. Conditions brought about by scanty
rainfall must often in Pukapukan history have approached a state of virtual
731 famine. The diet on such occasions as these would be fish and nuts exclusively.
262 With each adult on the island consuming from 7 to 10 nuts daily, and children
proportionately fewer, the available supply of eating nuts must soon get very
low.

132 Records for the year 1932 indicate prevailing winds from west through
northeast blowing for 115 days in the year, from east through southwest for
226 days in the year. From May to October the prevailing winds (the
trades) come from the east and southeast, and from November to April
from the north and northwest. The northerly winds are much more variable
than the trade winds, and the period from November to April is a time of
storms, heavy winds, gales, and electrical disturbances. Pukapuka is just out-
731 side the regular hurricane belt, but there are records of severe visitations.
A "tidal wave", probably accompanying a hurricane, which devastated the
island about 300 years ago is mentioned in traditional history (p. 386). The

[1] [See p.18, category 116 – analyst]

731 latest hurricane of which there is definite record (7, 1915) occurred on January 9, 1914. This was preceded by a severe storm on December 14, 1913.
152 Visitors who landed on Pukapuka on April 24, 1914, recorded that the high
seas had washed away all but seven houses and flooded all the talo swamps.
The wind blew down from the trees all the mature nuts and swept them into
the sea. The people took refuge in the higher parts of the talo beds and sub-
sisted on immature nuts and fish. The government schooner transported 52
Pukapukans to Rarotonga and settled them there until the Pukapukan food
supply should reach normal again. A hurricane, which swept the Cook Islands
in February 1935, was marked by exceptionally high seas in Pukapuka, but
did no damage.

731 In former times, when no relief from outside was available, tidal waves
and hurricanes must have produced famines on Pukapuka, or else reduced the
161 imminence of famine by drowning the majority of the population. Previous
to the tidal wave of 300 years ago, the population of the atoll was probably
between 1,000 and 2,000. After the wave swept over the island, the popula-
[578] tion was reduced to 15 men and their families. Famines gave rise to many
of the killings recorded in Pukapukan history, owing to quarrels over the
control of the available food supply. It was no mere coincidence, therefore,
821 that formerly the morning rising of the Pleiades in late May, heralding a
527 season of good weather, was accompanied by dancing and feasting. The
London Missionary Society church merely continues an old pattern when it
776 holds special services in March to render thanks for safety during the pre-
ceding hurricane season.

NATIVE WEATHER LORE

821 The compass directions are named after winds (fig. 2) which are asso-
621 ciated with the villages as follows:

776 Ngake: Kalua, Maoake, Malangai, Malangai tonga, Tonga, Malitonga, Koo, and Pua.
Loto: Walalua.
Yato: Tokelau iti, Tokelau matua, Walautia, Palapa, Ysiu, Laki.

The association of villages with wind names seems to be derived from the geographical location of the villages and the lands which they control. Ngake, lying to the eastward, controls all the winds that blow on the east and south side of the atoll. Loto, between the other two villages, controls the only wind blowing from the sea onto the outer beach opposite the reserve of Uta. Yato, to the westward, controls the winds that blow over the reserve of Niua and across the reef joining Wale to Kotawa. The names of these winds are used in the chants of each village for symbolic reference; no village, in composing a new chant, would mention the name of a wind belonging to another village. Though the matter is now very vague, it is possible that

821 formerly each village, through its power over specific gods, thought itself able to control the named winds by praying to the appropriate god. No
[621] special magical techniques would be required for this purpose and the matter would be left to the routine duties of the priest when consulting the gods in
776 the god house.

The gods exercise a general control over the winds from the four cardinal directions (p. 311). The story of Kalewi (1) tells how a woman invokes each of the personified winds to blow her down from a tree top, but only the cold Tonga wind has strength to loosen her grip and send her tumbling to the ground.

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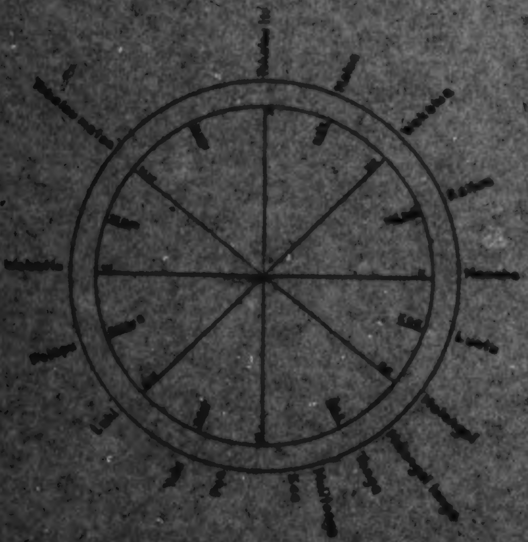

Figure 2.—Pukapuka winds and directions named therefrom.

821
192 The word for side or direction is haokao. Hence a person says haokao tokelau (northern direction), haokao tonga (southern direction.) The term pungo matangi refers to that portion of the beach which faces the direction of a wind blowing truly from tokelau, tonga, etc. To indicate precise directions when a wind is not blowing on the pungo, the term mao is used. E mao tokelau is a wind from the north blowing a little to one side or the other of the true tokelau wind. This direction may be specified by adding the name of the next wind direction to the name of the mao wind; thus a wind blowing

821 slightly to the west of *tokelau* is termed *mao tokelau wakatiu*; one blowing
slightly to the east of *tokelau* is *mao tokelau matua*. A wind that chops and
192 changes to several points in the same day is called *matangi tilivale*; a wind
that shifts to another direction to blow steadily for a week or so before
changing back again is *matangi tautaka*; a wind that shifts and blows only
for a day or so before changing again is *matangi tautakataka*. As certain
winds are valuable as two-way winds in sailing across the lagoon and back,
the winds are classified: two-way winds (*matangi alalua*) from Wale to Motu
Kotawa are *malangai* and *wakatiu*, from Wale to Motu Ko they are *mauake*
and *palapu*; one-way winds (*matangi alatayi*) from Motu Kotawa to Motu
Ko are *tokelau* and *wakatius* and the wind for the reverse journey is *yulu*.

821 Various beliefs are held about the relation of the weather to other phenomena.
Black clouds (*kapuao uli*) low on the horizon, accompanied by
787 thunder (*watitili*), are a sign that fresh fish have come inside the reef. A
822 vigorous electrical storm was formerly considered to portend a time of violence.
It was also believed to be the gods' warning of coming punishments
for violation of tapus. When lightning (*uila*) strikes the ground or a tree
[847] or when a meteor (*mata uui kave*) appears to strike the island, this is a sign
that a woman has conceived a child in incest and has had an abortion or
miscarriage in order to avoid a shameful pregnancy.

A rainbow (*nuanua*) breaking through black clouds and a stormy sky is a sign that the bad weather has been broken by the bars of the rainbow and will soon blow away. A rainbow cutting through the clouds in a dull sky is a sign that turtles have come to the outer beaches, or that a shoal of fish is outside the reef. If the bonito fleet is fishing and the people see this rainbow, they comment that the fishing will be successful. A rainbow seen in
the early morning or late afternoon is a sign that albacore fishing is good.
[613] For chiefly succession in the Muliwutu lineage the successful aspirant is the
one who can make a rainbow appear in the sky when he strikes with his
right hand on the sacred stone of the worshiping enclosure (*awanga ya*).

If the wind blows hard from the southeast, then moderates and swings round to the northeast, this is a sign that flying fish are abundant. When red streaks appear to shoot up to the middle of the sky at dawn, this is a sign of heavy rain and hot weather to come. A halo or house round the sun (*te wale na te la*) signifies heavy rain on the following day.

If Yina, the woman in the moon (*maina*), is clearly outlined and easily seen, this means fair weather; if she is dark and obscure, a heavy sea will make fishing difficult. The crescent of the new moon turned toward the north means fair weather throughout the moon; the crescent turned to the
south is a sign of bad weather; the moon lying on its back presages hot
821 weather. An eclipse of the moon or sun (*maina kaina, la kaina*) is caused

821 by the events narrated in the story of Lingutaimoa and her pet *manini* fish (1).

SEASONS

821 The native Pukapukan year was divided into seasons (*vaia*). The sign
for the new year was the morning rising of the Pleiades, about the middle
805 of May. This ushered in a period of six moons of pleasuring, *ono maina*
132 *utuutu* (*utuutu* is a jumping game, and presumably the word is a symbol of
221 good feelings engendered by sporting contests). Some informants dated this
period from the rising of the Pleiades, others from the first new moon after
the rising. Hence it comes between the May-June and October-November
moons. The cool trade winds blow steadily from the southeast, deep-sea
fish are plentiful, and the sea outside the reef in the lee of the atoll is always
calm enough to render it possible to catch these fish. This season, though
marked at times by a shortage of talo, is usually well provided with fish and
nuts. It is the time for competitive sports, for deep-sea voyages, and for
well-being. The period is introduced by feasting and dancing.

The six pleasure months are followed by six tapu moons (*ono maina yü*) from November to April. It is a period of heavy and changeable winds, possible hurricanes, excessive heat, and sultry weather. Deep-sea fish are not plentiful, and heavy seas sometimes make fishing arduous. Food comes from reef fishing and beach fishing for smaller fish. The supply of talo is plentiful if there has been no destruction of tubers during the preceding season. There was formerly little dancing, feasting, or chanting during this period, except at deaths. Compared with the moons of pleasure, these moons mark a time of stagnation of group activities, when only routine matters are kept in hand.

Another native classification gives three seasons, cutting across the dual
division. The rainy season (*te vaia yua*), lasting from November to March,
starts when the wind swings round from the south to the northwest and wild
ducks are sighted flying southward. At this time the people of Yato village
repair their houses and reroof them, because this village bears the brunt of
the winds from the north and west. It is a season for good growth of
trees, nuts, and talo; fishing is bad, but turtles come onto the outer beaches
at the beginning of the period. The marine worm (*palolo*) is not known
in Pukapuka so there is no *palolo* season to usher in this period. The season
for fair weather (*te vaia lelei*) lasts from March to June when fishing is
good and there is still much rain and plenty of food. The season of scarcity
221 (*te vaia to te onge*) lasts from July to October. There is little rain, the talo
turns yellow and does not produce tubers in any abundance. Growth of coco-
312 nuts is marked by a midwinter pause; though not plentiful, they are generally
sufficient for the needs of the population. Deep-sea fishing is good but water

221 [312] and talo are scarce. At the present time, the island water supply from concrete cisterns is rationed out to the families of the island from July until the first heavy rains.

The seasonal changes, though important for living conditions, have not involved any great seasonal rhythm of labor. Whereas house repairing for the western village is in October and November, that for the eastern village is in April and May, when the steady winds blow from the south and east. There is a tendency to reserve activities centered round the building of new houses and canoes for the cooler midyear months, and at the beginning of this period there is a spurt of building in all villages. Other activities go on throughout the year. Twice each year, depending on the maturity of the plants, all the talo beds on Wale and Motu Ko are fertilized. With the arrival of May and the beginning of the best deep-sea fishing, there is a general repairing of the fishing gear, including canoes, paddles, hooks, fishline, and anchor line. Today there is seasonal activity in copra making, the people from each village going to their respective reserves from March to April, and a second time from August to September.

WATER

312 515 Water for domestic use was formerly obtained exclusively from seep holes and wells sunk close to the beach above high tide level. This slightly brackish water is still used for bathing and other purposes by all three villages when they visit their reserves and, owing to the distant location of a better supply, by most Yato villagers all the time. Today three concrete cisterns on Wale store water draining from the church and courthouse roofs. This water is used for drinking and washing in the rainy season, in the dry season for drinking only.

PLANT LIFE

134 241 137 The soil of the whole atoll is poor, mostly infertile sand and coral gravel, and in consequence vegetation is sparse. Tropical bush grows luxuriantly in a few sections. Of the food plants, coconuts grow well, but talo and bananas grow only in excavated pits that have been filled with plant material and must be fertilized with leaves and ferns twice each year. As an aid to growth of bananas, old pieces of iron are buried among the roots. A few papaya and limes grow on Motu Kotawa. The kava plant (*Piper methysticum*) does not grow on the atoll. 137 824 Specimens of all plants growing in Pukapuka, as identified by Marie C. Neal, E. H. Bryan, Jr., and F. Raymond Fosberg, are recorded in the following list:

137
824

Kave (Cassytha filiformis)
Lakau yili (Pemphis acidula)
Laukotawa (Asplenium nidus)
Laupowe (Ipomoea grandiflora)
Limu peniu (a moss) (?)
Maile (Polypodium scolopendria)
Moemoe (Boerhaavia tetrandra)
Mouku (Fimbristylis cymosa variety
  macrocephala)

Nau (Lepidium bidentoides)
Niu, coconut (Cocos nucifera)
Ngangie (Pemphis acidula)
Ngayu (Scaevola frutescens)
Nonu (Morinda citrifolia)
Nuna (Pleurya ruderalis)
Ongoongo (Euphorbia prostrata)
Polapola (Solanum viride)
Polo (Hedyotis romanzoffiensis)
Puapua (Guettarda speciosa)
Puka (Ceodes umbellifera)
Pukama (Hernandia ovigera)
Pulaka (Cyrtosperma merkusii)

Pukuwa (Jussiaea erecta)
Taeyinu (Tournefortia argentea)
Taumakomako (Achyranthes velutina)
Tiale (Gardenia tahitensis)

To, sugar cane (Saccharum officinarum)
Vavai (Triumfetta procumbens)
Vayavaya (? Lepturus repens)
Vayavaya ui (? Cyperus ferax)
Wakapava (Cordia subcordata)
Wala (Pandanus sp.)
Wau (Pipturus velutinus)
Wawa, talo (Colocasia antiquorum
  variety esculenta)
  kele
  kiekie
  kula
  mawolawola } native varieties of talo
  newunewu
  pelema
  polapola
  pongi
Welo (Ficus tinctoria)
Wetai (Psilotum nudum)
Wetau (Calophyllum inophyllum)
Wuti (banana) (? Musa sapientum)
  malie
  mitiluki } native varieties of banana
  pukapuka
  talua
Wutu (Fagraea berteriana)
Yanuti (Suriana maritima)
Yulu (? Pandanus)

NOTE: Of the plants listed, *pukama*, *wakapava*, *puapua*, and *wetau* are used for canoes, implements and utensils; *puka* is used mainly for canoe outriggers; the bark of the *wau* is used for fishlines and cordage (termed *wau*) for fishnets. The coconut supplies material for the woman's kilt, the man's rough malo, sennit cord for fishlines, anchor lines, and general lashing, also material for rough mats, food platters, baskets, house thatch. It is one of the chief foods of the island. Pandanus is used for mats, for men's malos, today for house thatch. Its wood is valuable for house framework, and the ripe fruit is eaten. Pukapukans distinguish in terms of leaf shape two varieties of *Pemphis acidula*: *ngangie* and *lakau yili*. *Ngangie* is the preferred wood for fishhooks, for implements and outrigger connectives, but failing this wood, *lakau yili* is recognized as a valuable substitute. Botanically the two plants appear to be similar. The flower of the *tiale* is used for wreaths and decorations. The bark of the *welo* was formerly used for decorating ceremonial headdresses. *Nonu* makes the red dye used for mat designs. All the creepers such as *moemoe*, *laupowe* and *ongoongo*, are used extensively for wreaths and decorations. The one *wutu* tree on the island is reported to have grown from a drift seed.

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The general name for a plant is *lakau*. Root is *aka*. The trunk of a tree is *pu lakau*. A moss or lichen is *limu*. The fungoid "toadstool" growth on a fallen tree is termed *laulau talinga*. A seed is *wua*, a flower *pua*, a leaf *lau*. The name of the plant is added to these words to particularize: *wuapuapua* (*puapua* seed), *puaniu* (coconut flower), *akowala* (aerial root of the pandanus), *launiu* (coconut leaf, leaflet). The seeds of certain trees, however, have distinctive names: *pei*, seed of the *wetau* tree, and *kalaka*, *pukama* seed. The word *tiale* is used for both plant and flower of that name.

The Pukapukans are intimately familiar with the botany and horticulture of coconut and talo (pp. 81-90).

ANIMAL LIFE

132 The fauna of Pukapuka is similar to that of other Polynesian atolls. The pig, chicken, and European rat were introduced after white contact. The native rat was trapped, but not eaten. The native dog was unknown. 177

FISH

136 The Pukapukans empirically group the fish in their environment first into major classes of beach fish, lagoon fish, reef fish, reef fish outside the lagoon, and deep-sea fish, and second, into "families". In some cases, the larger fish of one family are given a different name from the smaller fish of the same family. In other cases, however, stages in the growth of the same fish from infancy to maturity are indicated by adding the following adjectives to the name of the fish: *tiki, lewu, tino lewu, tawila,* for young fish; *towolo, towolowolo, wolo, punua, tino wolo, tapulonga, tongi* and *palu,* for the large fish. With some fish again, the two systems for indicating development are combined, the name of the fish changing when maturity has been reached. The adjective *palu* associated with fish names, applies to a fish that inhabits very deep water up to 300 fathoms, though it is similar to another fish inhabiting shallower water. Thus, *palu malau* is a deep-water fish that looks like the smaller reef *malau.* The adjective *tawila* refers to small, newly-spawned fish that are driven into the lagoon shallows by bad weather. 172

136 The following list contains all the native names of fish that could be remembered by informants as being found in Pukapukan waters. Where possible I have also included scientific names, most of them obtained since I left Pukapuka by Robert Dean Frisbie. Mr. Frisbie asked a number of informants to identify the fish figured by Fowler (9). Other names I have procured from an examination of casts in Bernice B. Bishop Museum.

Akuku: species of Belone, Strongylura, and Ablennes.
Akula panoko: Tetrapturus mitsukurii.
Akula toa: Istiophorus orientalis.
Aku pa: similar to aku tangata, but has a squarer body and upper and lower jaws of equal length.
Aku tangata: Strongylura indica.
Ali towolo: Platophrys thompsoni.
Aliki: silver mullet (? Mulloidichthys).
Ali niukatea: similar to pateletele.
Atu: Euthynnus pelamis (bonito).
Atule: Selar crumenophthalmus.
Ana: species of silver mullet, larger than the aliki.
Ava: Chanos chanos.
Ave: a long slim albacore.
Ayeoa: black deep-sea shark, sharp nose, single dorsal fin, single caudal fin, long pectoral fin, long upper flukes to caudal fin, a fast swimmer and a man-eater.
Ayia: Caranx lugubris.
Ayole: a mulletlike fish, scaleless, white in color with a speckled dorsal fin (Polydactylus ?).
Ayoa: deep-sea shark, white belly, black head, very flabby skin, four dorsal fins, two anal fins, earlike protuberance on head.
Ewe: species of rock or reef grouper, with smoother skin than the patuki (? Grammistes sexlineatus).
Ie: species of Hemiramphus and Hyporhamphus.

1:Beaglehole and Beaglehole K-5 (1934-5)1938 Pukapukans

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Ika autotoa: a rare fish, very large mouth and large teeth; white tail turns red when the fish dies.
Kaka: a species of rock grouper.
Kala tua: Physiculus kaupi.
Kakatea: Malacanthus hoedtii.
Kakai: Germo macropterus (cast identification) or Euthynnus alletteratus (identification by informants from plate), the common albacore.
Kalevaleva: Alutera scripta.
Kaloma: yellow mullet.
Kalou moana: Lycodontis flavomarginata.
Kalou uli: a black deep-sea eel.
Kalou ula ulau pula: Lycodontis meleagris.
Kalou ulaula alau: Enchelynassa canina.
Kalou wolo loma: a black and white spotted deep-sea eel, conger eel (?).
Kamai: Elagatis bipinnulatus.
Kanae: a species of silver mullet (? Mulloidichthys).
Kanakana langi: dolphin.
Kanakana loyiloyi: dolphin.
Kanakana malamala: Coryphaena hippurus.
Kapua: Promethichthys prometheus.
Kata: a small reef and beach shallows fish.
Katakata: a fish similar to the kata, a Serranus.
Katea papa: Salarias zebra.
Katutua: Chonophorus genivittatus.
Katuli: Apsilus [illegible] or Upeneus porphyreus.
Kaupaurune: a long, red, eel-like, deep-sea fish.
Kawa: a species of silver mullet (? Mulloidichthys).
Kawala: Upeneus multifasciatus.
Kawala wakayauua: Upeneus pleurostigma.
Kawatea: Upeneoides arge.
Kayuye: a lagoon or sea fish, similar to Hepatus triostegus (manini), reddish in color.
Kikitua langi: similar to the malau, but with a longer head and a poisonous dorsal fin.
Kiki yaeae: similar to malau, but rounder and fatter.
Kili: Melichthys buniva.
Kiokio tai: Albula vulpes.
Kokili: Balistapus aculeatus.
Kokili moana: Balistes bursa.
Kokili tiapolo (modern name): Balistapus rectangulus.
Kokili yilu lana: a white deep-sea trigger fish.
Komuli: Caranx elacate.
Kopelu: Decapterus sanctae-helenae.
Kotimu: Holacanthus potteri.
Kotimu moana: Chromis verater.
Kupakupa: a small ocean fish, similar in appearance to Ruvettus, but inhabiting the surface waters, and caught occasionally when netting malolo.
Lai: Similar to Caranx kuhlii, but lai has no white on tail.
Lalaila: a small shark, light yellow with a white-tipped dorsal fin.
Lalawi: Cheilinus unifasciatus.
Lalawutu: Gnathanodon speciosus.
Lali: a grouper, with red skin on which are small darker red spots.
Lauiniu: Sphyrna zygaena.
Lauumani: Chaetodon trifasciatus.
Lawi: probably a parrot fish, but has dog-like teeth and yellow scales.
Leileiunga: Caranx helvolus.
Loi: Cephalopholis argus.
Lokie: Eulamia melanopterus.
Lui: Caranx ascensionis.
Lulu au: Zanclus canescens.
Lulu: a scaleless, lagoon and coral fish, with a black and yellow stripe and a long, flowing dorsal fin.
Lupo: family Carangidae.
Ma: Hepatus fuliginosus.
Ma pate: Hepatus lineatus.
Maito: similar to ma, but with red stripes on the back.
Malali: Amanses godeffroyi.
Malatea: similar to the parrot fish, but has tremendous blue scales, pronounced teeth, and feeds principally on Tridacna shellfish.
Malau: Myripristis multiradiatus.
Malau ania: Myripristis adustus.
Malau loa: a large kikitualangi fish.
Malau wata: Ostichthys japonicus.
Malava: a reef fish with a poisonous dorsal fin similar to the palangi. Very abundant during the first evening rising of the star Antares in June-July.
Malolo: the common flying fish.
Malolo pusaleu: a long, slim flying fish.
Malolo yue: a flying fish with a large belly like the balloon fish, not eaten or caught.
Malu: a shark with dark-colored back, pointed snout and black-tipped dorsal fin (Eulamia).

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Manini: Hepatus triostegus.
Mango: Shark (generic name).
Maeo: Hepatus leucopareius.
Maeo uli: Hepatus guttatus.
Mata ele: a red rock grouper with black eyes.
Matapula: Teuthis steindachneri.
Matapapala: a fish similar to the malau, caught when fishing malau outside the reef.
Matauli: a small flying fish, with two large ventral and two large pectoral fins. Never seen in daytime and never hooked.
Mataweo: the largest green turtle.
Matavela: a short, very fat kalipi, with short caudal fin.
Mayi: a silver mullet with a silver spot under the pectoral fin.
Memea, memea tewa, vatavata memea: names for species of yellow mullet (Pseudupeneus) with slightly reddish skin.
Moavao: a yellow fish, almost perfectly cubical in shape, never fished or eaten.
Moanga: probably a species of the yellow mullet family, though brighter in color than the kaloma.
Moi: Polydactylus sexfilis.
Moye: a reef fish.
Mu: Monotaxis grandoculis.
Mueke: squid.
Muna: probably a snapper, but with pronounced doglike teeth.
Ngalio: probably the garfish or garpike.
Ngangao: a large atu (bonito).
Ngatiu: a red snapper (Pagrosomus ?), but without the black spot characteristic of the taiva.
Ngatala: a red snapper with a black spot forward of the caudal fin.
Ngutuivo: the porpoise.
No: Scorpaenopsis cacopsis.
No wete: Merinthe macrocephala.
Palaeva: Caranx sexfasciatus.
Pakoa: a green reef fish, probably a parrot fish (? Callyodon), with black spotted stripes.
Pele: Acanthocybium solandri.
Pakangi: a large needle fish.
Palata: Alopias vulpinus.
Palangalanga: a green reef fish, probably a parrot fish (Callyodon blochii ?).
Paleo: (?) Amanses cuvier.
Palu ave: large deep-sea fish, black, with a large mouth, perhaps a grouper.
Palu kalai: Sarda chilensis.
Palu kotakota: a giant deep-sea spotted grouper.
Palu kilikala: similar to the Ruvettus.
Palu koauli: Seriola purpurascens.
Palu malau: a large deep-sea malau.
Palu mango: a large deep-sea shark with very soft bones and flesh, grows up to 18 feet long, rarely comes to the surface.
Palu matapula: a large deep-sea fish of the malau family.
Palu mumu: Monotaxis grandoculis.
Palu paaiwi: a large deep-sea paaiwi fish.
Palu taeyi: Ruvettus pretiosus.
Palu tavatava: a large albacore, one of the Scombroids.
Palu tonu: a giant red grouper.
Palu yiloi: a giant yiloi fish.
Palu yue: the giant balloon fish.
Palu uli: the giant uli.
Palu ulua: a giant Carangoid.
Palu wete: a giant fish similar to the paaiwi, has silver scales.
Paaiwi: Beryx decadactylus.
Papa: Variola louti.
Papeta: a small coral fish, habits similar to the kaloma.
Papo: one of the Pomacentridae.
Patiatia: Platophrys mancus.
Patuki: a variety of the reef grouper, Serranus.
Patuki wete: Cirrhites pinnulatus.
Patuki yiva: a deep-sea grouper (Serranus), very strong and fierce.
Pave: a striped kavali fish of the family Carangidae.
Pilipili wele: octopus.
Piopio: a reef grouper with red eyes.
Pompone: Chaetodon reticulatus.
Pui: Echidna zebra.
Pula: a reef and lagoon fish with a red tail.
Puaga mango: Cantherines pardalis.
Ta ele: Holocentrus diadema.
Ta: similar to malau, but with longer body and poisonous; also has poisonous barbs, gill sheaths and pectoral and dorsal fins.
Taiva: Lutjanus monostigma.
Taiao: a variety of rock grouper (Serranus).
Tuanyei: a species of silver mullet, a small bone fish.

#Beaglehole & Beaglehole E-5 (1934-5) 1938 Pukapukans

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[illegible]: similar to Lutjanus gibbus save that head of [illegible] is not so pointed.

Taviwa: perhaps the angler fish; a deep-sea, sharp-toothed fish.

[illegible]: a red snapper, similar to the [illegible].

Taotaonua: a small white fish with a long dorsal fin.

Tatatea: Chaetodon quadrimaculatus.

Tatavale: a small [illegible] fish.

Tatala: similar to the [illegible] shark, but with no color on the dorsal fin.

Tutu: a fish that looks like a small barracuda about a foot long (Sphyraena ?).

Tuakotikoti: Chaetodon lineolatus.

Tavatava: Scomber japonicus (?).

Tawola: whale; tawola tu, the Right whale.

Tawana: a scarce red fish, in appearance midway between a mullet and a grouper.

Tautaolama: similar to Forcipiger longirostris except that [illegible] is purple, not pale brown.

Tani: a short fat kakai, with a long pectoral fin.

Tikava: a large red mullet with a red lateral fin.

Tiki-urupiu: Chaetodon ornatissimus.

Tiwitiwi: Chaetodon setifer.

Totala: Tetrodon stellatus (cast); similar to Chilomycterus affinis (plate), except that totala has many more spines, at least 1 spine to ½ square inch.

Tiita: a striped lagoon eel, toothless, edible.

Tuaelonga: a snapper with yellow-black stripes on the body.

Tuna tangolangola: Uropterygius tigrinus.

Tuna wenua: an eel with a white belly, black head and a pectoral fin or earlike lobe on the side of the head; inhabits fresh water.

Tupoupou: a small white fish, reef or lagoon.

Tutuhu: Hemitaurichthys zoster.

Tutupaku: a small reef fish.

Uli: a large red mullet, with red lateral fin; larger than the tikava (Upeneus?).

Ulaulo: the common parrot fish (? Callyodon).

Uhu: Caranx sexfasciatus.

Uhulenga: a green reef fish, probably a parrot fish (Callyodon blochii ?).

Ulapu: probably the sperm whale.

Ulu wata: a large patuki fish.

Ume ata: Naso hexacanthus.

Ume pata: Naso lituratus.

Ume tala: Naso annulatus.

Ume tao: Naso brevirostris.

Umulenga: Balistapus capistratus.

Unaliki: Serranus fuscoguttatus.

Uwea: a silver mullet with a silver spot under the pectoral fin; larger than the mayi (? Mulloidichthys samoensis).

Uwea tukutai: a species of silver mullet.

Vete munea: Mulloides auriflamma.

Wai: a tailless black ray (Pteroplatea).

Wai kave: a black ray (Dasyatis); the base of the long tail is poisonous.

Wai lepa: another black ray similar to the wai kave.

Wakamia: a very large red shark, brightly colored, two dorsal and two anal fins; follows the albacore schools.

Walala: Cantherines sandwichiensis.

Wanga: a large yellow fish, perhaps a species of snapper.

Wapaka: Stereolepoides thompsoni.

Wawalua: Manta birostris.

Weke: an octopus.

Witiwiti: a lagoon and reef fish, similar to the [illegible], but with a very long anterior dorsal fin.

Wo: a tiny deep-sea minnow, comes close to the reef in large schools.

Wono: the barracuda.

Wonu: Chelone midas.

Wonu lea: Chelone imbricata.

Wu: Callyodon sordidus.

Wuakau: a light yellow fish, doglike teeth, large scales, two dorsal fins; similar to the parrot fish.

Wuakula: the green duckbill fish.

Wuatua: a giant member of the wu species (see below).

Wuikamoro: a parrot fish with red stripes along the back.

Wukoti: similar to the wuakau, but has a stripe across the back.

Wumanga: similar to the wuakau, but whitish.

Wumoemoe: Leptoscarus vaigiensis.

Wunoikila: similar to the wuakau, but has reddish scales and yellow teeth.

Wutalaloa: similar to the wuakau, but has a black stripe across the back; poisonous barbs.

Wuvavane: similar to the wuakau, but with scales of variegated colors.

Yuma kula: Chaetodon fremblii.

1: Beaglehole & Beaglehole E-5 (1934-5) 1938 Pukapukans

136 **Yayaulua**: one of the Carangoids.
Yengayenga: a red striped fish weighing about 3 lbs. Perhaps 6 or more related fish vaguely known to the Pukapukan fisherman but not named.
Yika kaniuyauma: Polymixia japonica.
Yika koti a poteka: Histiopterus typus.
Yika yawae: Pterois sphex.
Yikatea: Balistes vidua.
Yika moko (?): Coris flavovittata.
Yiloa: Aprion virescens.
Yimu: Balistes ringens.
Yipa: a young flying fish.
Yoke: a fish similar to the kavali Carangoid; distinguished from the yoke mango, a young shark.
Yoyala: Chaetodon sp.
Yue: Tetrodon meleagris.

Informants recognized the following fish as being present in Pukapukan waters, but they were unable to recall the native names: *Chaetodon unimaculatus, Heniochus acuminatus, Lutjanus gibbus.* Informants recognized the following three fish as belonging to the *wu* family, but in default of colored plates, they were unable to give them definite names: *Thalassoma umbrostigma, T. trilobata,* and *T. ballieui.*

BIRDS

The following is a list of the birds found on Pukapuka:

Akiaki: a white tern with a black semicircle round the upper part of each eye.
Ali: the sooty tern, a visiting, nonresident bird (Sterna fuscata).
Kaka: the white or ghost tern. Two named varieties: kaka vai, with a small black spot on the top of the head; kaka tea (Gygis alba).
Kaleva: the native cuckoo, apparently an indigenous bird (Urodynamis taitensis).
Kawe: a curlew (Numenius tahitiensis).
Kotawa: frigate bird (Fregata minor).
Kiu: probably a variety of plover with a brownish-red beak.
Kolili: another variety of plover or sandpiper.
Lakia: black tern with a white spot on the top of the head (Anous minutus melanogenys).
Lewulewu: a small blue-grey beach bird, now extinct, which laid eggs in the sand; probably a rail.
Lulu: a large white-breasted sea bird, larger than the booby (Sula sp. ?); rare.
Lupe: said by natives to be the same as the Samoan pigeon (Globicera pacifica).
Manu uli: a large, black sea bird, with a white breast, resembling the ngongo.
Matiku: the reef heron (Demigretta sacra). Two varieties: matiku lenalena, the white heron; matiku uli, the blue heron.
Noa: a large sea bird, with straight beak, and when young, one black stripe across the breast (Sula sp. ?).
Ngongo: the noddy tern (Anous stolidus).
Polopolouenga: a white and black spotted bird, probably a turnstone.
Takupu: the booby (Sula leucogaster).
Taiko: the dusky shearwater (Puffinus obscurus).
Tala: Sterna lunata.
Talakoka: another variety of plover with two stripes on the back coming together to form a V on the breast.
Talawae: a sea bird with white breast and black back, in size midway between the tern and the booby; a visiting and nonresident bird (Sterna lunata or Thalasseus bergii).
Tavake mokomoko: the white-tailed tropic bird, a resident (Phaeton lepturus).
Tavake toto: the scarlet-tailed tropic bird; it does not lay on Pukapuka and is a rare visitor today (Phaeton rubricauda).
Toloa: the wild-grey duck (Anas superciliosa).
Tuli: a sandpiper (Heteroscelus incanus).
Wili: a long-winged, spotted sea bird, probably a species of tern.

ECONOMIC ORGANIZATION

CONTROL OF WEALTH

471 In former times, the island as a whole apparently did not function in the
421 control of land, reefs, or other native wealth. Today, however, there are on
Wale five talo beds (*ui*) which are controlled by the island. These are termed
731 *ui wenua*. After the tidal wave of 1914, the Island Council divided some of
621 the talo lands owned by the maternal lineages among all the people of the
island in order to tide over a temporary food shortage. These lands have
remained under the control of the whole island since that time. Their names
are: Ui lua wunui (2 beds), Ui alapai, Ui kolomui, Ui angatonu.

In economic matters today as formerly, the ultimate controlling units are the village groups. These are independent of each other and may utilize their lands and reefs in any way they wish; in practice, however, they all conform to the same pattern of control.

VILLAGE PROPERTY

REEFS

423 The barrier reef (*te ayanga loa*) and all fishing grounds on the reef,
621 inside and outside the lagoon, are divided among the villages as follows:
226 The reef from Wale to Matautu, the northern point of Motu Ko, belongs to Ngake; no men or canoes other than those of Ngake are allowed on or near this part of the reef. The reef between Matawea, the western point of Motu Ko, and Motu Kotawa is divided into halves (*ite*), one half belonging to Ngake, the other to Yato. The reef fishing from Motu Kotawa to Wale belongs to Yato, but because lagoon fishing in former times was controlled by Ngake, the men of Yato could fish only outside this reef. Without permission from Ngake villagers men of Yato could not go to their reserve by canoe across the lagoon but had either to coast along the outside of the reef or to walk along the reef shelf. The outer, northern reef, running round the reserve of Niua (the northwestern side of Wale) as far as the boundary of the Loto reserve of Uta was controlled by Yato; the outer reef from this point to the eastern boundary of Uta was controlled by Loto; the rest of the reef running past Utupoa to the main reef was controlled by Ngake. Each village had the right to the beach and lagoon fishing on its own shore (*tahutai*). The rest of the lagoon away from the village frontages belonged to Ngake.

The control of reefs, though apparently weighted heavily against the
village of Loto, worked with a certain flexibility. The men of Ngake an-
476 nounced at frequent intervals to the men of the other two villages that
they might fish in the lagoon for one moon. At the end of the period the
431 lagoon was tapu for all save Ngake men. All economic tapus (*lawi*) were
supported by supernatural sanctions. The two villages benefiting by this
784 generosity took gifts of food, usually nuts and talo, to Ngake in payment
for benefits received. Special gifts were sometimes given as when Yato
made an expedition to Motu Kotawa and returned with extra supplies of
takupu birds (tern).

423 The open sea opposite each reef was controlled by the village owning
226 the reef and only men from that village might go deep-sea fishing there.
As the canoe channel on the western reef was controlled by Yato village,
133 men from Loto and Ngake had to receive permission before taking their
canoes across the break (*ava*) in the reef at this point. This was a fre-
685 quent request, for the only other break close to the villages is on the north-
621 eastern side of Wale, rarely as sheltered and manageable as the western side.
Permission was given as a matter of generosity. Trespassers in the fishing
reserves of other villages were punished by fines in mats levied by the guards
(p. 37) of the village whose reef was violated.

423 Before the causeway (*kolo*) was built across the western arm of the
lagoon on Wale, this lagoon indentation was considered a part of the reserve
226 of Niua. After the causeway was constructed, Yato village still retained
431 control of the "bay", and turned it into a fish pond. It is simply called
te loto, the name for any enclosed water. This pond contains many *ava*
621 fish (white mullet), which fatten on the algae growing on the lagoon bottom.
The fish are tapu for most of the year, but at certain arranged times,
generally at the end of each month, the pond is opened to fishing parties
from Yato for one or more days. Fishing is sometimes an individual mat-
ter; at other times all the men of Yato fish together on the same day. The
catch is divided among all the people of the village. Some of this fish finds
its way through gift to other villages, but the sole right to fish in this pond
is jealously guarded by Yato men.

LANDS AND BOUNDARIES

621 The land on the three islets is divided among the villages. Each village
421 retains control of the lands specifically set aside as communal village lands.
The rest of the land within the village boundaries is controlled by the paternal
361 and maternal lineages. The village boundaries (*tuhei*) on Wale are shown
on the map (fig. 1-b). 1

The present boundary lines between the villages date from a period just
423 after the great seismic wave of about 300 years ago. After this catastrophe,
621 in the reign of the chief Mainu or of his successors, Tulivyanga and Alata-
361 kupu, it was decided to realign the boundaries to take care of population
growth. The technique used is called *tutuki*, a form of stick wrestling. A
526 weapon (*kolo*) of *motou* wood, about 4 to 6 feet long, is held by two men
facing each other, each trying to push his opponent backward. The boundary
423 advances or retreats according to the position of the weapon. In the contest
621 in question, all three villages participated, lined up along a provisional
526 boundary running from lagoon to outer beach near the present church.

626 Loto faced Yato on the west and Ngake on the east. Before the contest commenced,
the high chief (*aliki wole*) went to the sacred place of the goddess Tane and requested

226 1. [See p. 88, category 111 — analyst]

[626 776] her to punish any man who violated the rule that no man should become so enraged with his opponent as to do him physical injury. Fear of Taua's punishment, an affliction of tumors under the arm and on the stomach with possible death from these sicknesses, was sufficient to restrain those with short tempers.

526 423 621 At an agreed signal, pairs of opponents wrestled for possession of the *kaio* stick. Whenever a man wrested the stick from an opponent, he placed it on the ground to mark the boundary for the moment. When one contestant relaxed, his vis-a-vis was in honor bound to stop wrestling and place the stick on the ground until the other had recovered breath. The expression "Yoka ki lalo te kaio ke malolo, ke wakamanava" (Thrust the *kaio* firmly down—into the ground—to rest) refers to this act. One might insult, grimace at, or threaten one's opponent, one might twist the weapon from his hands, edge his hands off the two ends of the stick, throw him off his balance by wrenching or twisting the stick or by grasping him round the waist—do anything in fact to secure possession of the stick save shed blood. At the end of the day the pushing was ended by mutual consent, and the provisional boundary line was marked by sticks or stones joining up the points where each weapon rested on the ground. For seven days or more this wrestling was continued, and when it was finally stopped, the line drawn from one weapon to the next was taken as the final boundary between the three villages. Insofar as the line of weapons was crooked, depending on the fortunes of the members of each village throughout the contest, so was the boundary line rambling.

621 423 776 At about the same time as the *tutuki* contest for village boundaries on Wale, further *tutuki* were held on Motu Ko and Motu Kotawa to decide village control of these reserves.

On Kotawa, the men from the three villages lined up and struggled as before. The Yato men had driven the other two villages as far as the reef joining Kotawa to Ko, when hard feeling arose and Loto men began to use their weapons as clubs, felling some of their opponents and drawing much blood. Just then a huge eel was seen swimming along the reef with wide open jaws as if ready to devour the wrongdoers. All the men became frightened at this apparition, which was either Taua in an animal incarnation or an animal sent by her to frighten the people. Yato men ran back onto Kotawa, while Loto and Ngake men fled along the reef to Ko. Hence Yato claimed control of Kotawa through ultimate right of possession, and this claim was conceded by the other two villages.

621 423 A contest was then held on Ko between Loto and Ngake to decide ownership of this reserve. After much struggle, a boundary was drawn on the reserve, such that Loto received a small section of the western end of the islet and Ngake a larger section at the northeastern end. This arrangement continued until some generations later when an arrangement was effected whereby certain lands on Wale belonging to Ngake were transferred to Loto's reserve of Uta in consideration for Loto's withdrawing entirely [598] from Ko. Though the arrangement was actualized, there was dissatisfaction among some Loto men at the time, a feeling which still continues, Loto villagers thinking that an effort should be made before a Land Court to secure the return of land on Ko.

The *tutuki* contest was probably used at various other times in Pukapukan history to readjust boundaries when a shift or increase of population in the village made it imperative that one village should have more land. There are vague references to *tutuki* contests in traditions, but the one that settled boundaries such as they are today is that which is best remembered.

There are no boundary walls on Motu Ko or Motu Kotawa. Heaps of stones scattered across the ground are the only traces of the boundaries of

621 the two reserves on Wale, Nima belonging to Yato and Uta belonging to
Loto, once marked by encircling walls of coral.

423 The wall (*pa*) surrounding the three land boundaries of Uta (the fourth boundary
324 being the outer beach) was made of slabs of coral conglomerate set on edge, and served
not so much to bar entry as to mark off tapu land from land over which all might walk.
Those having legitimate business in the reserve were supposed to enter through one of
the three gates or breaks in the wall; one (*te pu i te uto*) near the present residency, the
second (*te pu i Matala*) at the site of the present watch house at Matala, the third (*te
pu i te tukenga wou*) on the western side.

The stone wall round Nima ran from the head of the western indentation of the lagoon, the present fish pond, northward to the outer beach. There were two gates through this wall, one (*te kawi alo ki tai*) at the lagoon end of the wall, and the other (*te kawi tua ki tua*) at the outer beach end of the wall. In some symbolism that informants could not clearly remember the lagoon end is called "the belly of the *kawi* (a strong ferocious fish) by the sea", the outer beach end "the back of the *kawi* by the outer beach."

The stone from both walls was freely used to build coral lime houses in the days of the early missionaries.

VILLAGE GUARDS

623 Village control over reserve food lands was implemented by tapus en-
241 forced by supernormal powers of village gods and by a guard of men called
625 *pule*; these tapus were directed against outside villagers all the time and
were lifted against home villagers only when it was decided by village council
776 to take food from the reserves. When the tapu was raised the guard or
621 all the people of the village were allowed to go to the reserve to collect a
fixed amount of food. Visits to the reserve at other times for the purpose
of cultivating talo beds were always by permission of the guard. The gods
of each village interested in preserving the reserve from thieves sent sick-
ness and other punishments to those who violated the sanctity of the reserve
(p. 311).

625 Both Yato and Loto villages have a well-organized guard which watches
the reserves on Wale throughout the year. Ngake, with no reserve on Wale,
469 does not have an organized guard system. Individual villagers, often older
887 men who are not tied down each day with food-procuring duties, are dele-
gated to watch the reef between Wale and Motu Ko and to examine way-
farers along this reef coming from the direction of Motu Ko to see that
they are not smuggling stolen foods into Wale. These single guards also
watch canoes on the lagoon coming from the direction of Motu Ko. All
Ngake canoes are required to beach at Waleton, where they are examined
for contraband articles by older men living at this place before being allowed
to land their canoes elsewhere.

625 In Loto and Yato, all men who have reached sociological adulthood are
drafted for guard duty. In Loto there are about 50 men able to serve as
562 guards. Each guard is composed of about 25 men, serving for one month.
561 Formerly only men served on Loto guard, but in recent years, when it was

625 thought that the men's guard was consuming privately from the reserve more food than it was preserving, the old men of Loto arranged that the
562 men should serve for six months only, and that adult women should serve as guards for six months of the year. The rationalization was that the women would not be so expert at climbing nut trees as the men, and that they could devote spare time to talo cultivation. Hence in Loto today, the men's guard serves from January through June, each man acting for three months each year; the women's guard, two groups of 30 women each, serves from July through December, each woman also acting for three months each year. The Yato guard consists of men only, about 25 men for each guard. With 50 men in Yato village, each man serves for six months each year, usually in alternate months.

625 Six watch houses (*wale palenga*) are scattered through the reserve of Uta. The guard is divided into six groups (*tuha*); a group of four men
561 or women watches from each house for one month, then moves in rotation to the next house, shifting houses thus each month. The single watch house
226 in Niua at the head of the fish pond, the site of the former lagoon gate to the reserve, is used by the Yato guard as its headquarters.

There is a tendency in Loto to group the members of each guard according to age grades. Thus one guard will comprise the oldest men, the following one middle-aged men, and so on.

Much friendly rivalry exists between successive companies of guards. In Yato, at the end of every month, the guard fishes in the pond for the benefit of the entire village and much is made of the fact if one company catches more mullet than the preceding company.

625 The monthly guard change (*te winga pule*) is accompanied by a division
241 of food from the reserves among the people of the village.

262 In Loto a division of drinking and mature nuts is made. In Yato nuts and, in season, papaya and limes procured from Motu Kotawa by guards who make a special trip to obtain the fruit are divided. The guards under the supervision of older men gather the nuts from Niua and Uta. The change of guard in Niua on January 9, 1935, was marked by the following typical food division: each man, woman, and child on the village rolls received two drinking nuts; the 48 women of Yato received papaya at the rate of one for every three women; 79 children received papaya at the rate of one for every four children. At other times, the division included men and not women, or men and women and not children. The conclusion of the month's guarding is accompanied also by a small division among the guard of fish caught by delegated members of the group and of talo foods prepared by their wives and relatives.

625 The duties of the guard are to patrol the reserve throughout the day
245 and keep away thieves; to preserve the nuts, pandanus trees, and other
244 flora of the reserve from depredations; to keep wandering pigs and chickens from destroying the talo beds. They put tapus (*lasi*) on young nut trees by tying coconut midribs round the boles of the trees. Formerly the break-
694 ing of such a tapu was punished by the gods of the reserve; today a thief

625 is known by the way in which the *kaui* is disturbed. In Loto the men sit in
517 the guard houses where they command a wide view of the reserve and indulge in craft activities, gossip, drink, and eat nuts. The women guards plait mats,
694 cook talo meals, eat nuts, and amuse themselves as they wish. The Yato men wander about the reserve, play games, and fill in the rest of the day
203 with eating and sleeping. Three nights each week, usually after dark, the guard passes along the village road and reports to the village on the state of the reserve. One man is chosen to make the report (*vananga*). In a loud voice, he mentions the amount of thieving that the guard has noticed, the name of the culprits, if known, the fines to be levied; he warns the people to respect the reserve, not to go there to collect nuts, pandanus leaves, or
[653] firewood, until such visits are authorised by the village. When the report is finished, the guard members break into a chant, either an old chant or a new one that they have composed and practiced during the day. This finished, the guards move to another place in the village and repeat the report. A typical report made by the Yato guard on a day when no stealing has been detected is;

Wakalongolonga mai kolua,[6] e to tama' lalo ki te vananga a te pule ko avatu ki a kolua ia. I a kolua, awe tuku kolua i a kolua tama ke wakatalotalo wua i te moto. Ke pukea mai i loto, e vayi loa, ngalepelepe. No i ai na aumai ia te vananga ke longo kolua talinga. Wakalongo kolua wakalelei. Ko te vananga ia na aumai ai ki a kolua. Tangi ai loa ia te manu ia.	Listen you of our village to the report of the guard to be made to you. You, don't let your children wander about in the reserve. If we catch (them) within (the reserve), we shall whip them to pieces. Therefore we have brought the report, so that your ears may hear. Obey you well. That is the report we have brought to you. Let the birds now sing. (A chant follows.)

685 People who have been detected stealing are required to pay fines to the
696 guard, either in nuts or in sennit or other craft objects. The amount of the fine depends on the amount of goods stolen. Once a culprit is detected, all
577 will see to it that the guard, even when from another village, is supported in its efforts to collect fines. Though all believe that stealing from the reserve is immoral, few Pukapukans are above helping themselves to nuts in secret.

625 In the village of Yato where there are outside reserves to control, guards
241 watch all canoes coming from Motu Kotawa. These must land at a special section of beach for inspection. When guards come back from Motu Kotawa
489 with fruits for the monthly division, other guards, who have remained on Wale, help to carry the fruits to the place of division and are careful to look over the canoes surreptitiously for contraband foods. When the women of Yato are sent to the reserves to cut *kotawa* fern to use as fertilizer for village talo beds, each returning canoe is carefully inspected by guards who

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195 [6] Note the use of the dual pronouns of the first and second person plural, rather than the plural pronouns, *kotou, tatou*. The form is used in all public pronouncements.

625 poke about under the piles of fern and look into the corners of the canoes.
241 The women are given permission to bring back a few nuts for their own
households. All the nuts in the canoes are removed to the beach by the
[489] guard, counted out one by one, and (nowadays) the total written down on
paper. Once when the guards doing this were two youths who had just attained adulthood (*mahutona*), it was amusing to see the way they officiously examined the canoes of two elderly men who had gone to Motu Kotawa with the women. The older men, though obviously annoyed with the inquisition, did not dare to make any comment. It is only after the canoes have been given a clearance at this beach that they are allowed to proceed to another beach, nearest to the talo beds, to unload the cargoes of fern leaves.

625 When a village meeting decides that the villagers shall go to the reserves
241 Ko or Kotawa, for a period to work the talo beds or to procure nuts, the
matter is announced to the village by the guard, because it is the guard that
203 oversees this visit and makes sure that none brings from the reserves more than the agreed amount of foods. A typical announcement of this nature, made in Ngake, which has extensive talo beds on Motu Ko, is:

Wakalongalongo mai koutou ki te vananga ko avatu ki te tuna kainga. Ka wo loa tatou ki te motu. Ko tatou mea ka aumai: E [illegible] te niu papaku, e [illegible] te niu. Yau te mea a te tinie ka aumai: E [illegible] te wawa. E [illegible] te tamaliki. Ko wo taua ki te motu nei, e ya te kaveu, e ya te ngongo, e ya te lakia, e ya te [illegible], e ya te lupe, e ya te kaipea, e ya te [illegible], e ya te wiati, e ya te ngangie. Ko te wui mea ia e wakapotio i te tatou motu. Ka nono tatou i ai e witu po, [illegible] tatou. Oti ai.

Listen you to the report to be given to our village. We shall go to the reserve. These are our things we shall bring back: 20 mature nuts each, 20 drinking nuts each. Next the things of the women which they will get: 100 tubers of talo each. For each child, 10 drinking nuts. When we go to the reserve, the crabs (enumerated) and the birds (enumerated), bananas, and ngangie wood will be tapu. These are the things to be tapu in our reserve. We shall stay there for seven nights, then return. That is all.

Throughout the stay on the reserve, the guard reports each night the events of the day, makes sure by inspection visits during the day that the tapu foods are not being touched, and when the time comes to return, goes from house to house, counting the nuts piled up ready for the return trip.
226 Visits to the reserve of Ngake were formerly made on such occasions as
223 follows:

623 At times fixed by the chief of Ngake and the council of men, all the men would go to Motu Ko to collect nuts and to fish. Young men wishing to go to the reserve at
245 other times to net birds or for whatever purpose, had to procure permission previous to the visit. At one time, it was customary for parties of three or four men to be
685 given permission to fish from the outer reefs of the reserve. Permission was granted for a three days' stay only, and if the men stayed longer than this period, they were
622 automatically considered thieves and treated as such on their return. At other times, at a meeting of the chiefs of the island, men of the other two villages were given permission by Ngake to go to Motu Ko for a set period in order to fish from the reefs.

> 226 This was a return for courtesies rendered to Ngake men by the other villages, particularly deep-sea fishing privileges off the western reefs of Yato.

That the reserves are well guarded is evident from two incidents:

625

> In walks over the island with Yato informants, astonishment was always expressed
> 152 in their faces when I casually proposed taking a short cut to our objective across the reserve of Loto. Even though I thought that my presence was sufficient evidence that
> 521 my informants were not likely to steal nuts or talo from the reserve, informants never set foot on the reserve without finding the nearest guards and informing them that
> 123 their visit to the reserve was in my company only, and not for illegal purposes.
>
> On one occasion we were taken to Motu Ko in a Yato canoe. The Yato men took the opportunity to inspect the reserve thoroughly before going on to Motu Kotawa. This was the first time that some of them had set foot on Motu Ko. Ngake friends were continually urging us to pay a visit to Motu Kotawa that they might visit Yato's reserve as canoe crew. When we finally went to Motu Kotawa, Ngake men launched the largest canoe available, and there was keen competition for the privilege of being one of the crew. Even old men, almost incapacitated through age, made a point of being fictitious crew members on this day, and during our few hours' visit on the islet, the Ngake men inspected every nook and cranny of the reserve, appraising the amount of nuts on the trees and the number of roosting birds with critical eyes. The results of the survey proved a topic of excited conversation for many days thereafter.

621 The villages have retained exclusive control over village reserve lands
685 throughout Pukapukan history. At one period, however, in the reigns of the two chiefs after the seismic wave, the system of village control was
421 temporarily in abeyance. In order to prevent widespread stealing, the law
361 of *pule pae* was decreed whereby the guards had the power to kill by strangulation or drowning anyone caught stealing food from the reserves. Though centralized in one locality at this time, the villages still retained separate identities. Each village unit furnished a guard for the reserves. Accord-
625 ing to the severity or laxity by which these guard units enforced the law they were named: Te Pule-Wala-o-Yila-Wua (Pandanus-that-glitters-only), the guard of Ngake; Te Pule Tuli (the Tuli bird guard, or the guard that chases), the guard of Loto; Te Pule-Wala-Mangeo (the Guard-of-bitter-pandanus), the guard of Yato.

> The guard of Ngake was kind-hearted because the people of Ngake had opposed the passage of the law of *pule pae;* this guard allowed thieves to escape from the reserve, thus earning the name of pandanus that glitters only but does not sting or catch people with the thorns of the leaves. The guard of Loto carried out the letter of the law, and allowed none to escape; they caught people as the *tuli* bird is caught in a trap. The guard of Yato was also strict, so they were named after pandanus that catches people with the thorns of the leaves. It is said that if the Ngake guard saw a man tarrying at the boundaries of the reserve, they told him to hurry inside, take what food he could, and hurry away while they turned their backs on the infraction of the law; that the Yato guard killed law breakers at once, and that the Loto guard killed them on the next day.
>
> 625 Besides accounting for the law breakers, the guard collected nuts and fished for
> 226 food to divide among all the people. This was done by the guards stationed on Wale,
> on Motu Ko, and on Motu Kotawa. Other members went through the village each day
> 245 to see that everyone was accounted for. Those missing had to prove that they were

625 226 245 not illegally fishing and that they were not stealing from the reserves. Incidents of this period are told in the stories of Taiva and Kapeia, and in the story of the *pule poo* (pp. 380, 395).

685 673 625 Numerous references in the stories and traditions of the island show that stealing from the reserves was an ever-present problem that challenged both supernatural and secular supervision of these reserved areas. The only major sin in Pukapukan society seems to have been stealing from the reserves; beside this, all other types of antisocial conduct become mere peccadillos. Where the law breaker meekly accepted punishment, secular or supernatural, all was well, but a thief surprised by a guard and resisting arrest either in shame or in desperation might be killed outright in the succeeding brawl. Several ancient graves on Motu Ko are still pointed out as the graves of thieves who were surprised on the reserve and killed.

TALO BEDS

621 425 244 The center of the reserve of Uta is a communal talo bed controlled by the village of Loto (pl. 1,*B*). This large area is subdivided into 11 smaller areas (*ui kalo*), named after nine land divisions in the reserve. There are four similar *ui kalo* in the reserve of Niua. The people of Ngake have more than 15 large talo cultivations on Motu Ko.

773 244 Tradition states that the main talo beds on Wale were formed originally by Tamulivaku, son of the god Mataliki. Tamulivaku became troubled in his heart at the number of gods who were taking up residence on Pukapuka. He wished to be separated from the gods, so he stood at Te Auma, the northern point of Wale, and stuck his foot in the sand. This made a big separation or channel in the land from Te Auma to the pond, Te Vaituma, in Ngake village, and thence to the sea. As this follows the line of the present talo beds, it is common to refer to these beds as Te Akanga-vae (Striking-of-the-foot). Mataliki with his wife and the gods lived on the western side of the division, *te [illegible]*, so called because it faces the setting sun, while Tamulivaku and his sister, Te Matakiata, lived on the eastern side, *te [illegible]*. As the island became more populated, this natural excavation, widened and deepened in places, was used for talo beds.

244 412 It is probable that the first migrants to the atoll found natural hollows in the land, caused by wave action when the atoll was being built up above sea level, and used these hollows as the basis for the talo beds. Successive generations continued the work of excavation, no light task with coconut shells, coconut baskets, and digging sticks as the only implements. Subsurface water seeped in and rain water helped to rot the artificial fill of dried coconut midribs, *kotewa* ferns, and other plant material into a humus soil, which became in time excellent soil for talo cultivation. The results of the excavations are seen in the raised embankments (*tua mota* or *tua ui*) which follow the line of the talo beds and divide one bed from the next. That natural hollows were first used as beds is indicated by hillocks about 40 feet high running beside some beds. It is impossible to imagine that

244 these hillocks were raised as the result of human excavations with such
912 primitive implements.

Traditions state that the talo beds on Motu Ko were started by the
emigrants from the legendary land, Yayake, and were continued later by
244 the Pukapukans after the people of Yayake were all killed. Both on Wale
773 and on Motu Ko, excavations continue to this day. The beds that a man
digs out are his own property during his life; on his death they are passed
425 on down the paternal descent line. Picks and shovels borrowed from the
428 resident agent help to render excavation today less laborious than it must
have been in earlier times.

177 The village-controlled talo beds ([illegible]) are separated into three divisions,
one each for the men, women, and children of the village. Each year the
423 number on the village rolls is altered through birth, death, the addition of
those attaining sociological adulthood, and affiliation ([illegible]) of new members;
621 and a redivision is made of the beds of the members of each class on the
244 village roll. The shares of dead adults are taken by new adults ([illegible]
and [illegible]), whose shares in turn are given to new-born children. This
redivision ([illegible]) is made by a village meeting at the talo beds. All
[522] attend, even children, as a matter of course. The argument, discussion, and
division are carried out by the guard and elders of the village; sitting on a
near-by hillock, the others watch and assist with free advice and witticisms.

The new boundaries are marked by stones and coconut midrib butts.
These soon fall down, but not before the new divisions have been memorized.
The actual size of the village allotments varies somewhat from year to year,
but in general a piece of land about 3 yards square is the average size of
244 the division for man, woman, or child. Twice a year all the village women
625 gather leaves and plants to fertilize the beds. Each adult cultivates his
689 and his children's land how and when he pleases. The guards inspect the
reserve land beds each month and fine each cultivator who has allowed his
land to get weedy. The appropriate fine of three pennies or six mature
coconuts is kept by the guards for their trouble in levying and collecting it.

244 The system is flexible and seems to work well. Each household receives
an amount of talo land commensurate with its size. The system insures
423 that none shall starve while others hoard up lands they cannot cultivate.
471 Supervision by the guards keeps the land in good condition. The talo beds
that a household derives from these village lands are supplemented by lands
592 owned through lineage descent.

511

PATERNAL LINEAGE PROPERTY

Lands within village boundaries not controlled by the village unit are
421 controlled by the paternal and maternal lineage groups. On Wale, each
613 paternal lineage (po) controls a section of land ([illegible]) of indeterminate

[421] width, depending on the amount of village-owned land and the number of
613 paternal lineages that share in the division. Each section runs from lagoon
(*tai*) to outer beach (*tua*) missing out the talo beds and reserve lands owned
423 by the village. Thus the sections of Ngake run straight through from *tai*
311 to *tua*; those of Loto [illegible] to Uta, then stop and pick up the line again on
the northern side of the reserve whence they extend to the outer beach.
[364] The cemeteries of each paternal lineage and of each sub-lineage are situated
on the section of the lineage. Through patrilocal residence, all male members
of the paternal lineage reside on another part of the same section of land.
The *kainga* are named for the paternal lineages.

Besides the two sections running from *tai* to *tua*, the paternal lineages of Loto also own smaller sections in Uta. Four land divisions on the western side of Uta are controlled by the sub-lineages of the *po* i Tua. The names of these divisions (*te kainga i te tuanga lalo*) are: Te Pa, [illegible], Te Wale-[illegible], Te [illegible]. Four divisions (*te kainga i te* [illegible]) on the eastern side of the reserve are divided among the sub-lineages of [illegible] *po*. Their names are: Te Uta, Wale-kakala, Te Wale-[illegible], [illegible].

[361] The lineage sections of Yato run from *tai* to *tua* on the strip of land east of the cemetery, the only site of Yato in former times. Ngake informants recognize none other than these; Yato informants, feeling that the transfer of part of the village to the site west of the cemetery and the opening up for residence of what was formerly tapu land enable them to speak legitimately of further sections in this western extension of Yato, state that by fiction if not by tradition, the three Yato lineages have owned strips running from lagoon to Niua in the western section of the village.

421 The coconut trees, talo beds, and bush timbers on all sections are of two
613 kinds: first, those owned by the people of the lineage in common and shared
241 among all members; second, those individually owned by male and female
428 members of the lineage who alone are allowed to plant or to own trees on
the section. Coconut trees of the first type descend in the lineage corporation and are not alienable. Trees of the second type are inheritable among individual members of the lineage, but are not alienable outside of it.

423 Each section (*kainga*) is further subdivided into homestead lots named
613 [illegible]. These lots are the subdivisions of the sections on which, in gen-
692 eral, male members of the paternal lineage live with their families. Through
marriage, adoption, choice, or inheritance of a house, people of different lineages come to live together on the same homestead lot, but the tendency is for all living on the same lot to be related by some kinship tie, close or remote. Only people belonging directly to the lineage that owns the section on which the lot is located may plant or privately own trees or talo beds or be said to own house sites on the lots.

613 423 248 The boundaries between the lineage sections and between the homestead lots are well marked by stones, coconut and *pukawa* trees, and graves of ancestors. There is no record that a guard similar to the *pale* was used to protect these boundaries, which are nevertheless well known, well kept, and respected.

If a boundary tree dies or is blown down, another is immediately planted in its place and tended until it becomes an efficient boundary marker. People of the lot use only the trees growing on their own household lots for domestic purposes. If a nut drops from a tree growing on a homestead boundary and falls on the land of the next lot, it must be procured at once. If it is allowed to remain to grow into a tree across the boundary, the tree belongs to the man on whose land it grows. A person in theory has the right to keep nuts that have fallen on his property from trees growing across the boundary, but this is rarely done.

428 613 178 At the death of the household head, his house site and nut trees descend in the paternal line. The children of the deceased act as joint owners of the property through the trusteeship of the eldest male of the family. A man or a woman who may marry and live away from his or her paternal lot still has a claim to the nuts grown on the lot and expects to draw nuts from that lot in an emergency. Children of a man residing matrilocally retain an interest in their father's paternal lands. Children do not normally inherit coconut trees from their mother. According to Mitimoa, it was formerly the custom to divide coconut trees among men, giving them to women only when there were no sons in the family, but the custom today is to share coconut trees among both sons and daughters so that none will ever be deprived of nuts.

312 423 In former days, a well was sunk on each homestead lot for the use of the households living on the lot. Three lots in Yato still have their own wells, each used by the people of the lot. Others may draw water from these wells, but through courtesy right only, I think. If the water level in the well is low, outsiders drawing water are regarded with a somewhat unfriendly eye.

613 423 No story or legend is remembered which relates how the lineage sections or lots were originally formed. Pau believes that the paternal lineages of Ngake held *tutuki* contests at various times to settle boundaries, and cites as evidence the very irregular boundary lines. Loto informants have no memory of *tutuki* for the Loto sections, and add: "The Loto sections are so small and short, running across Wale as they do at its narrowest part, that they would not be worth quarreling about—the gain to one paternal group at the expense of the other would be so slight."

[591] As a matter of speculation, it is likely that originally the people of the same paternal lineage congregated together on the same piece of land. Cemeteries would be placed there and boundaries marked off. Thus sections of land would come to be associated with certain lineages. But through patrilocal marital residence and personal choice,

[591] people other than blood members of the lineages would come to live on the sections. To
423 protect the food supply of its own blood members, the lineage might well make the rule
613 that certain nut trees were to be shared among all associated with the constituent
lineages through blood, marriage or choice; whereas only members of the lineages by blood or adoption might plant and own trees on the *kaoa* section. This would prevent the removal of wealth from blood members of the lineages by friends and distantly related affinal relatives, who might come to live on the section. The land is thus effectively owned in common by the lineage corporation, though sole right to the produce of the trees remains with individual members of the corporation.

613 Both paternal and maternal lineages, the *po* and the *wua*, control small
423 sections of talo beds. There is no legend as to the origin of this control.
244 These beds were probably dug first on land controlled by the paternal lineage
428 or by the maternal lineage if the maternal descent group was originally a
616 more important unit of social organization, as evidence seems to indicate.
Then, as new paternal or maternal lineages were set up by the breaking away of men and women from the basic groupings, certain talo lands were transferred to the new, minor lineages, from those controlled by the major group. The twenty-three talo gardens on Wale owned by the paternal and maternal lineages are all named. These gardens are divided among male and female members of the lineages. In the next generation, children retain a share in the mother's maternal lineage beds, but receive no shares in the mother's paternal lineage beds. Similarly, they retain shares in the father's paternal lineage beds, but none in his maternal lineage beds. The talo lands are controlled by the lineages as corporate entities, and are redivided from time to time to include new members of the corporation.

INDIVIDUAL PROPERTY

421 The wealth objects controlled by the individuals are few. A man may
556 own a house and a house site, a canoe, fishing gear and implements, clothing,
pearl-shell ornaments, trees, and talo beds. A woman owns mats, prepared
422 pandanus, ornaments, trees, and talo beds. Small canoes, one-piece dugouts
226 or plank canoes, are owned outright by one man. Larger canoes which have
required much time to make and wealth to finance are owned by household groups, or groups of closely related kin. The oldest man of the kin group is spoken of as the nominal owner of such a canoe, but all the members of the group refer to it as "our canoe". If relatives or friends wish to use the canoe, they ask permission of the nominal owner. A young man who does not possess a canoe of his own borrows one from a friend. When the fisherman returns, he gives fish, usually the best and biggest of his catch, to the owner of the canoe in payment for its use. The fish reserved for this payment is termed *ika yo* (sacred fish). When one man is invited to accompany another in a fishing canoe, there is an equal division of the catch and no payment of *ika yo* is expected from the guest member of the canoe.

[501] Informants stated that in former days there were fewer canoes than to-
613 day. A tapu (*lawi*) for protecting a canoe tree was instituted by making
four cuts on the bole of a tree, about 6 feet from the ground. Most canoes,
313 especially the large ones, were the property of the paternal lineage groups,
422 each of which might own from one to three canoes. As the canoes belonged
to the corporate entity, no problem of inheritance arose.

423 The ownership of nut trees has already been mentioned. Like trees in
the reserves, individually owned trees are protected by a tapu of a coconut
245 midrib. *Pukama* trees are also individually owned and are very valuable in
578 that the leaves provide the best plant material for fertilizing (*wakalepo*) the
talo beds. *Pukama* and coconut trees are planted over the buried afterbirth
844 of the new-born child along the boundaries of homestead lots. Individual
control of *pukama* trees is carefully guarded. During the season for mulching (*wakalepo*) the talo, it is not uncommon for two women to enter into
physical encounters over rights to *pukama* trees which both claim to control.

244 Individual named talo beds (*ui tangata taki tai*)—twenty-two in all on
428 Wale (see pl. 1, *A*)—are inherited in the male line, or according to bequest.
They have been excavated and named by individuals in the past. Some of
731 the names of owners, as given by informants, refer to living people, others
428 to the original makers of the beds, one or more generations back. Few
Ngake talo beds remain on Wale; most private beds were situated close to the old site of Ngake village at Umpoa, and were destroyed by the tidal wave that overwhelmed the village in 1914. The beds were filled in with sand, and have since been planted with nuts; new talo beds are being excavated now on Motu Ko.

428 Inheritance of other items of personal property is according to rule or
by right of bequest (*wakawiti*). When an individual dies, much of his
764 property—adzes, pearl-shell hooks and ornaments, malos, sleeping mats—is
775 buried with him. If he dies intestate, all that remains after the survivors
768 have fulfilled the last duties to the deceased is divided among the children,
blood and adopted. When an individual has made a bequest before death, his property is divided accordingly. Fear of retribution by the spirit of the deceased if the terms of the bequest are not strictly carried out insures that the last wishes of the dying man will be fulfilled.

428 The house is generally inherited by children or paternal male relatives
592 of the deceased. Two exceptions in which the house was inherited by the
wife of the deceased came to light in the census.

In one household in Yato, the mother is a Loto woman, twice married. Her first marriage was with a Yato man, and residence was patrilocal. When her husband died, the widow inherited the house and occupied it in Yato. When she remarried, her second husband came from Ngake to live with her in this house. In a household in Ngake, a widow and her children continue to reside in the deceased husband's house. The widow is referred to as the owner of the house, but since her children are young, 428 she may perhaps best be considered temporary owner until her children are old enough to control the house for themselves.

[592]

591 In theory, the adopted child inherits only from his adopted parents. If it should happen that the adopted child is the only child or the only surviving child of his blood parents, by arrangement he may also share in the coconut lands and other property of his blood parents.

PRODUCTION OF WEALTH

DIVISION OF LABOR

462 The division of labor is based primarily on sex, and to a minor degree on age. Table 2 shows the division of work between men and women. The division is fairly rigid in the sense that it is rare for a woman to go deep-sea fishing, or for a man to have much to do with talo preparation.

Table 2. Division of Labor

WORK OF MEN	WORK OF WOMEN	JOINT WORK
Fishing for all fish	Beach angling, lagoon groping, shell fishing	Torch fishing (occasionally)
Bird snaring Canoe building Making of sennit, implements, nets, weapons, artifacts, ornaments		
Building house framework House thatching		Making roof sheets of coconut or pandanus
	Plaiting of mats, malo, etc. Planting, cultivation and harvesting of talo	Plaiting of rough baskets and platters Fertilizing of talo beds Excavation of talo beds
Preparation of pigs for cooking	Cooking of talo, pigs, fish	Water carrying Care of pigs and fowls
Making of food divisions		
Gathering and husking of nuts	Gathering of nuts by young girls (occasionally)	
	Husking of mature nuts Domestic household duties	Training and care of children
Control and guarding of reserves	Guarding of reserve (Loto; modern)	
Political and priestly duties		
Practice of medicine	Practice of medicine (occasionally)	

462 One jealous woman is reputed to accompany her husband everywhere he goes, even
162 going fishing with him. She is the butt of much private ridicule. A man in Ngake
suffers from paralysis of the leg and is unable to carry out men's occupations. As his
626 wife is bedridden, he devotes much time to preparing his own talo foods. This is no
matter for ridicule; the village has pity for his misfortunes and rather admires the way
577 he shoulders the burdens of running the household.

The heavy work of talo bed excavation was probably always joint labor.
462 In Yato and Loto villages, little excavation is done at the present time.
244 Ngake men labor strenuously with the women at enlarging the village and
709 private talo beds on Motu Ko. In former times, when closely allied with
priestly possession, the practice of medicine was almost exclusively a male occupation. Women practice medicine a little today, based on a limited knowledge of some herbal remedies for use in childbirth, inflammation, and the like.

857 Division of labor on the basis of age applies mainly to the very young
and the very old. The participation of children in adult activities is slight,
887 and follows in general the lines of adult sex division. A child's participation increases as he approaches adulthood. The only boy noticed who regularly helped with the domestic tasks of talo preparation had a mother with no female relatives to help her in the care of numerous small children. The tasks expected of an old man or woman are light. Most old people continue to putter with trivial tasks as if loth to feel that their days of active employment are over. The very feeble are cared for by children and relatives.

463 The amount of specialization in Pukapukan economic life is small. Every
man considers himself able to perform adequately most adult male duties,
554 and every woman considers herself a good enough cook or mat plaiter. Specialists (*tangata maiva*) were limited to such occupations as canoe building, the practice of medicine, and priestly duties; they received recompense for their special abilities either in gifts or in added social prestige. All specialists save the priest participated in the daily routine of economic activities. Minor specialization occurs where one man in a group of relatives is recognized as being especially skilled in the making of sennit, or the lashing of house frames; when the kinship group is working on a joint project, work is allotted to those best able to complete it. Specialization depends on natural skill and training, not on inheritance or purchase.

ECONOMIC ROUTINE

221 Seasonal variation of work is very slight; deep-sea fishing is poor during the hurricane season, and not engaged in by the men as frequently as it is during the colder season; talo beds are fertilized about twice a year, depending more on the growth of the talo than on the season. There may be slightly less activity during the rainy months.

512 It is almost impossible to give an account of a typical daily economic
221 routine for men and women. Activities vary greatly in terms of nights of the moon, conditions of tide and weather, number of members in the household and their ages, the occurrence of deaths, births, and marriages, and nowadays the day of the week. Fishing is governed almost entirely by moon and tide conditions; one day a man may fish early in the morning, the next day, late in the evening, and on a third day, he may fish all night and not at all during daylight. Deep-sea fishing is more frequent toward the end of the week, when it is necessary to lay in supplies to cover the workless day of Sunday, and just before feasts. Where there are several adult members of the household, some men fish while others gather nuts and work around the village. Where there is only one male in the household and several small children, the father is busy all the time with the most varied activities. The amount of cooking done by the woman depends on the amount of fishing done by the male members of the household, the occurrence of feasts, and the day of the week. The woman goes to her talo beds about twice a week to cultivate and to fetch talo for cooking. Cooking is simple at the beginning of the week, but for the weekly Sabbath feast much trouble is taken and cooking goes on for the most of the preceding
[285] day. Wet weather is best for mat making because the pandanus elements become soft and pliable. Continued rain throughout the day sends a woman to her plaiting, no matter what else she had previously planned to do.

ORGANIZATION OF WORK

476 The main occupations of Pukapukan economic life—fishing, house build-
226 ing, cultivation, canoe building, and today copra making—all require some form of cooperation, whether of a simple or complex type. The determin-
285 ing factors are the type of work, kinship, locality, and sex. The size of the working group depends on the importance of the event or the magnitude of the work. Deep-sea fishing, mat making, and cooking can be performed with only a simple combination of labor, that is, all workers carry out the same activities. The fishing may be simply cooperative, as when men from one or more households fish together to provide food for a prospective feast, or competitive, when the men of each village fish together as a group in competition with men from the other villages. Mat making is usually done by only one woman, but when the household supply of mats is depleted and it is necessary to make mats for a coming wedding, a woman invites her friends or relatives to participate in a small working party. Several women come together and each works on a section of the mat, or else one takes over the plaiting when the first worker tires. The workers are fed during the time they are assisting in the task.

476 Typical activities which involve complex combination of labor are bonito
226 and flying-fish fishing, seine fishing, house building and thatching, canoe
making, talo bed excavating, and today copra making. Bonito and flying
fish may be fished by a small group of friends in one or two canoes, or else
may involve village cooperation. Some men in each canoe are paddlers,
others the netters or rod wielders. Women relatives provide the food for
the crew. Seine fishing is carried out by groups of men, usually by a village
group. When the net is used on the reef controlled by another village, however, men from this village also participate and share in the fish division.
House building involves complex household or village cooperation, depending
on the building constructed, whether for use as a private cook or sleep house
or for a village meeting house or reserve land guard house (p. 76).

476 Canoe making is the work of an expert canoe builder and a number of
assistants whom he directs. The group for whom the canoe is being built
437 provides the food for the workers and makes the gifts that recompense the
workers at the conclusion. Talo beds are excavated by men and women,
241 the men doing the heavy digging, the women carrying away the sand and
263 coral. Copra making is a village undertaking, involving both men and
women. During the stay on the reserves, men and women collect and husk
the nuts; older people and women split the nuts; men and women put them
on the drying platforms; and children and old people later remove the copra
from the shells. The men transport the copra to the villages and store it
in village-constructed storage houses to await shipment.

476 Work is initiated by those who experience needs and require assistance to
fulfill them. The needs may be biological, such as the need for food or
621 shelter, or else social or ritual, as in the preparation for feasts, the building
625 of village or religious houses, and village competitions. Village work is
initiated by the informal village council, by inter-village discussions, or by
household heads who anticipate the occurrence of large feasts. Specific
works which involve the welfare of the village as a whole, such as copra
making, the care of village talo beds, or preparations for village contests,
are controlled by the guards (*pule*) acting as executive agents for the village.
The work is so organized that all have specific tasks allotted to them. The
guard sees that the work is carried out and is up to the required standard
of efficiency. In work on the village copra storehouse for example, the
guard arranges for some men to fish for the village workers and for the
women to prepare talo to feed the workers; the older men to arrange the
work that those best skilled for certain tasks are given the direction of these
tasks and are adequately helped by less-skilled workers.

476 The native Pukapukan pattern functioned in typical fashion when the
621 people made the collection of material culture objects presented to Bernice
P. Bishop Museum:
609

476 621 609 A list of all the objects it was proposed to make was first prepared by a group of representatives from each village. This number was then equably divided among the three villages. Village meetings were next held, and the work for each village was allotted to individuals or groups of men working under a supervising expert. On the day appointed for the commencement of the work, young men were sent out fishing, and selected women prepared foods for the group. All the workers assembled, men and women in separate groups, and worked throughout the day. At dusk, a food division was made and arrangements discussed for the next day's work. Experts were recalled from guard duties in the reserves where younger men substituted until the special work was completed. Cooperative work continued until all the objects were completed. As in other group activities, there was little direction of the work beyond its formal initiation. Most techniques were well known, followed traditional rules, and were easily carried out. Where work involved more complicated or uncommon techniques, someone recognised as specially skilled assumed the duties of director. Uncommon techniques were sometimes submitted to a sort of informal commission of old men, who discussed the matter thoroughly among themselves and then issued directions for the work as it proceeded.

461 621 476 [378] Work of all kinds is not without its stimuli. Individual work has its own reward, and work that is specially commissioned by others, as in canoe building, is paid for in food and gifts. Cooperative work on a small scale is recompensed by a feast; on a larger scale it depends for its stimulus on a sense of the fact that village welfare reacts on the welfare of the individuals composing the village, and, also, on inter-village rivalry and the consequent outlet for aggressive feelings. All types of cooperation are marked by sociability, good-natured banter, gossip, and joking. Chanting or singing is rare. There is no use of drugs, other than tobacco, as work stimuli.

461 626 476 Laziness in communal work is rare, but where it occurs there are several ways of dealing with it. The person who does not join group work does not share in the subsequent food division. If a person is persistently lazy in village works, he is deprived of his adult's share and is given only a child's share of village food divisions. This is a matter for intense and long-continued ridicule by both children and adults and continues until the person mends his ways. Two songs ridiculing the lazy person were quoted to me with the remark that the guard sang them outside the lazy one's house at night, and that children chanted them whenever the person appeared in the open. Both make pointed reference to the laziness with an insinuation that this carries over into personal habits. The songs are:

539 Te pivaʻ elo, malo pipilo,	Pig smelling, malo stinking,
626 E kiai ya wano ki tua	(He) has not gone to the back (beach to defecate)
461 Tuku ki ki te wakayaŋa	(He has) placed himself in excrement
Kae mea loa e ao ai.	No thing (body) visible (through the filth).

539 Te malu, te malu, te malu	The weak (one, "softy"), the weak, the weak,
626 Te wewei, te wewei, te wewei,	The lazy man, the lazy, the lazy,
Tuku loa ki te vananga	Given (out his name) in the report (of the guard)
461 Puke atu enuenu pe te poi[8]	Overtaken (by laziness) squashy like pudding,
E hua yinga wua ia.	Flops down completely.

FISHING

GENERAL FEATURES

123 226 Information on fish and Pukapukan fishing methods was obtained mainly from Veti and Eliu. It has been supplemented by general observation of some of the fishing techniques described. The material is not only interesting to the student of comparative Polynesian fishing methods, but it also gives an insight into the amount of control exercised by the Pukapukan fisherman over part of his environment. This control is much more complete than the following information suggests, because the actual amount of information collected represents a mere surface-scratching of the knowledge possessed by native fishermen. Two other limitations, imposed by lack of time and by comparative ignorance of the field worker in all that concerns fishing, conspired to prevent the collection of complete data on Pukapukan fishing. The classifications adopted in the following sections are those used by informants in presenting the material. Identifications of native fish names are given elsewhere (pp. 27-31).

226 621 The waters within and without the reef are used equally in fishing. The inner waters of the lagoon are combed over and over again each day by all the methods of lagoon fishing. Deep-sea fishing outside the reef is indulged in at least twice a week, depending on the amount of other work to do, the state of the sea, the winds and the weather, and the season of the year. Deep-sea fishing is relatively poor from November to March. In former days the amount of lagoon and outside reef fishing a man did depended also on the village to which he belonged. The division of reefs and lagoon among the three villages and the exclusive control exerted over these properties meant that the men of Ngake and Yato could fish more extensively than the men of Loto.

226 815 135 The habits and movements of all the fish were studied and correlated with the rising and setting of certain named stars (p. 350). All parts of the reef, inside and outside, as well as the lagoon deeps and shallows, are well known in terms of fish habits. Names for sections of the reef and for the parts of the ocean immediately outside the reef are given in figure 3.

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192 [8] The chants are modern, hence the use of the Tahitian *puaa* for pig (first song) and *poi* for pudding (second song).

1:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

226 The Pukapukan fisherman never does random fishing (*yi ike*). If asked where he is going, he replies, "Ka wano au yi kaloma, yi kakai, yele pala..." (I am going to fish *kaloma*, to fish *kakai*, to noose *pala*...); he is always going to fish specific fish. If the particular fish is caught in more than one place, he usually tells where he is going to fish. It is rare for a fisherman to return from an expedition with conglomerate varieties of fish. He usually brings home fish of a few related varieties that were all caught by the method he proposed when he first set out.

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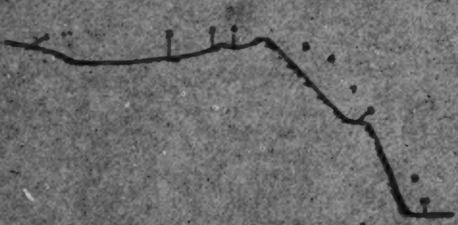

FIGURE 3.—Cross section of reef rim: 1, land, *wenua*; 2, lagoon, *alo*; 3, inner side of reef shelf, *tuaoneone*; 4, reef shelf, *ululu akau*, the reef circuit being termed *ayanga*; 5, surface water, *kilitai*; 6, sub-surface water, *waiti*, 3 to 10 fathoms deep; 7, deep water, *fuongangutu*; 8, lower, outer reef shelf, *papa o te akau*; 9, greatest depth of water, *yolo-tongangutu* (also called *moana*); 10, ocean floor, *papa o te moana*.

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Men are customarily the fishermen, but women do beach angling, groping, shell fishing, and assist in torch fishing inside the lagoon. Turtle, *kakai*, *akula*, *atu*, and *pala* fish were formerly always taken to the meeting place (*malae*) of the old men's group (*tupele*) for division. These fish were caught by the young men's (*tangauga*) fishing group or by the fishing group of older men (pp. 67, 281). The old men divided these fish among the people of the island. If the *tangauga* men caught 30 *kakai*, the old men kept 10 for themselves, gave the chief special cuts from the body of the fish, and divided the rest equally among the people.

226 Certain habits are characteristic of all fishermen. In reef angling, beach angling, and submerged reef fishing, the fishing basket is held between the legs. The mouth of the basket is invariably tied with coconut fibers to prevent loss of the fish, if by chance the basket upsets or falls into the water. In reef angling, where the fisherman moves about, he often ties the basket to his belt or suspends it from the shoulders. In beach angling, especially for *kaloma* fish, the fisherman sits on a coconut husk, a coconut midrib, or a stone. When he is fishing for *kaloma* and the fish are biting fast, he throws the catch down on the sand beside him. It is important not to waste time under these conditions, because the fish are soon satiated with the chum (*katikati*) thrown to them. But when fishing for *kaloma* to be

226 used as live bait, he places the basket in a little hollow scooped out in the
482 sand, half submerged in sea water. In spearing, torching, clubbing, and the modern method of iron spear catapulting, fish caught are tied together with coconut fiber (*kaleva*) passed through the gills. The fish are laid on a convenient coral head when the fisherman moves or dives. To carry them greater distances, he strings them around the waist to make a malo of fish (*malo ika*) or loops them over the arm. Chants which celebrate the winning of fishing contests make frequent reference to the man coming home with strings of fish around head, waist, and shoulders.

226 The following list gives several common terms employed in fishing:

Tukutuku or wakayaka: to pay out a line.
Wuwuti: to pull in a line (general); to pull in a short line with overhand strokes.
Tupe or langa: to pull in a long line with long overarm strokes.
Totoi: to take the strain on a line when a fish is fighting and cannot be pulled in.
Wakamatala: to jerk a line to disengage the sinker.
Tae: to net fish in the air or to make an outward sweep of the net.
Toli: to make an inward sweep of the net to scoop fish into the canoe.
Yoka or momono: to plunge the net into the water with a downward sweep in order to net a fish.

226 A lazy man who does not go fishing is termed, in ridicule, *atua wawine*
626 (female god), because he seems more concerned with the sphere of activities presided over by female gods who never interfere with the fishing pursuits of men. Another expressive phrase used to describe a bad fisherman is: "Ia kae i te maunu kava" (You have a bitter bait).

226 In general, bad luck in fishing is attributable to the breaking of tapus or
777 to the domestic circumstances of the fisherman. If a wife commits adultery while her husband is out fishing, he will have bad luck; formerly he might repair his luck by prayers to his god. If a man quarrels with his wife before fishing or if he goes fishing while there is a corpse in his house, he will be unsuccessful (*ka kaya*).

226 Before going fishing in former days a man was careful to pray to his
782 god or ask the priest of his paternal lineage to pray to the lineage gods
776 for success in his undertaking. When a man went fishing for special fish,
778 controlled by certain gods, he always prayed to these gods and again to the gods that control the winds. As his canoe passed the place where the sacred clearing (*yionga*) of an ancestor god was visible, the fisherman stood up in his canoe and prayed to this god that he might procure plenty of fish and lose none of his pearl-shell hooks. Canoes going deep-sea fishing off the western side of the atoll, especially when trolling for bonito, always stopped
226 opposite the stone of the god, Malokitelangi, near the western reef channel
782 to leave on this stone a gift for the god—a malo, some sennit, or a fishhook. The gift (*wakatotea*) was later removed from the stone by the priest

226 782 of the god and placed in the god house. These prayers for good luck survive today in the prayer meetings that are held in the several villages before the fleets set out for a fishing contest and in the prayers that are said at sea before the first line is thrown overboard. In the story of Pania (1) a fisherman gives some fish to his god after returning from an expedition, in order to thank him for his services. Informants were unable to state whether this was a common custom in former days.

226 304 784 A curious story is that of the man Taewa who became a successful fisherman even though he did not observe any of the fishing tapus:

> Taewa tried many times to be a good fisherman, but without success. Disgusted with himself after many years of effort, he decided that the only way to improve his fortune was to circumcise himself. He was the first and only Pukapukan man to do this. With a clam shell, he made a longitudinal slit in the foreskin, then slashed the skin till it hung in tatters. The wounds healed, and ever after Taewa had good luck in fishing. So fortunate was he that he could afford to disobey all the fishing tapus without suffering any penalties from the gods. He named the Black Nebula below Crux, Te Pauiwi, because the shape of the nebula reminded him of the shape of the *pauiwi* fish. Some say that Taewa was protected by a spirit in this nebula when he broke tapus, though none knows how this protection was exercised. Others say his luck was due to the fact that he always fished when Te Pauiwi rose above the horizon and not at any other time. None could explain the effect of his voluntary circumcision upon fishing luck.

225 776 231 There was no method of catching whales. When a whale was stranded on the reef, a call was sent through the three villages. The women rushed off to the talo beds to bring back talo which they prepared for the men who went to cut up the animal. The work of cutting up was supervised by a priest of Te Maungaru, the god who was supposed in some ill-defined way to control the stranding of whales. The blubber was divided among all the people of the island. The vertibrae were used as seats; no use seems to have been made of the whalebone.

SIMPLE METHODS

226 Ill-defined methods of fishing—stone throwing or stone clubbing, stepping on fish, hand scooping, and hand flipping—are employed only incidentally to other activities.

> Stone throwing (*haua ki te watu*) or stone clubbing (*patu ki te watu*) is performed by a man walking through the lagoon shallows who sees lagoon fish near by, often sleeping undisturbed at his approach. Fish killed by this method are yellow mullet, rock groupers, parrot fish, and flounders.
>
> When a man fishing other lagoon fish comes across a flounder resting on the bottom, he makes a quick jab with his foot to pin down the fish, then picks it up, and kills it by biting it behind the head.
>
> If a man sees a fish resting close by but can not find a stone or stick with which to kill it, he approaches quietly and, quickly dipping his hands into the water, scoops the fish onto the beach. This method is often successful with *tumoyri*, *tupoupou*, *taotao-*

most fish, and especially on varieties which never move at the approach of a fisherman or a canoe.

Flipping is employed for *kata* and *katatua* fish, usually by children. A piece of unga crab meat is tied to a coconut husk with a strip of fiber. The husk is held in one hand and lowered into the water. When the fish bites, the husk is flipped from the water with the fish on it. Another technique is to tie crab meat to a length of coconut fiber and jerk the fiber from the water when the fish has the bait in its mouth.

The wooden fish club (p. 189) is used to kill large deep-sea fish as they are hauled into the canoe. It is also used as an adjunct in seine netting, all types of reef fishing, and torch fishing. One who finds fish stranded in shallows of the lagoon or beach may club them to death with a wooden club (*patu ki te lakau*). Fish commonly killed in this way are *vete*, *mamini*, squid, and angler fish.

GROPING, SPEARING, TORCH FISHING

Groping (*tolitoli*) for reef fish is done by men, women, and children, mainly during the full moon and spring tides. Fish spearing (*yoko ki te tao*), formerly done with a wooden spear (*tao ika*) or with a rough spear made by pointing a stick of *puapua* (*tao puapua*), has been largely superseded today by the introduced method of catapulting a light, pointed iron rod. Torch fishing (*lamalama*) is done on dark nights by two men, or a man and wife, or a young man and woman.

1. Groping. Each person takes with him a basket (*ola*) and a fish spear (*tao ika*) or a piece of sharpened *ngangie* wood about 3 feet long (*yokiyoki*). He gropes about with his hands in the branching heads of the antelope coral, in crevices, reef channels, and pools of the reef shelf (*akaukau*). When he comes to a deep crevice, he gently pushes his stick towards the hole to make the fish come forward and bite. If he sees that the fish is not dangerous, he grasps and kills it with a bite behind the head; if it is not safe, he spears it or leaves it alone. Groping at high tide, the fisherman submerges and swims under water to explore deeper holes.

Artificial rock piles (*au wata*) are built for basket groping (*tata ki te ola*). Piles of stones are placed in appropriate parts of the lagoon, about 35 yards from the shore in shallow water. A large slab of coral conglomerate is supported by four smaller stones, and the whole covered by other stones. The pile is left for about two weeks, when two fishermen return with a cone-shaped fishing basket and a coconut-leaf mat (*polapola*). They place the basket (*ola*) close to the pile and surround both basket and rock pile with the mat. One man knocks aside the smaller stones and larger slab and drives the fish into the basket. They close the basket and replace the stones before proceeding to the next *au wata*.

A basket is also used for the ordinary method of groping under coral heads. One fisherman holds it near a crevice while the other beats the water or pokes into the hole to drive out the fish. Children are adepts in the use of this method; their mothers or sisters make them small baskets for catching the smallest reef fish. Fish caught by the groping method are: *mamini* (about three times each year, when very young), *eve*, *malili*, *talao*, *katima*, all the parrot fishes, *lawi*, *pakeva*, *pevu*, *lalaurutu*, *lai*, *ume*, *palangi*, *malava*, *kayuyu*, *ua*, *maito*, *ngatala*, *tangau*, *tunaelenga*, *mutonga*, *mumu*, *malau*, *kokili*, *kili*, *umalenga*, *yimu*, *wehe*, *witiwiti*, *yoyalo*, *palauli*, *piopio*, *mataele*, *lali*, *papa*, and *yiloa*.

2. Fish spearing. Save for one or two fish, spearing is carried out in the shallows

1:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

226 of the lagoon or on sandy bottoms close to the beach. The following fish are commonly speared: *pala, ali, patoletole, ulua* (a deep-water fish speared outside the lagoon), *tupoupou, tautauamo;* the eels; the trigger family, deep-sea members of which are sometimes found inside the lagoon; *uitiuiti, yoyolo, palu uli, piopio, matoele, lali,* and *papa.* The various rays are speared with a *tao,* to the base of which a sennit cord is tied so that the spear will not be lost.

227 3. Torch fishing. Torches (*lama*) are made late in the afternoon preceding the fishing. Two dry coconut midribs are used for the reef fishing torch (*lamalama akau*), 572 three midribs for the malau fishing torch (*lama malau*). To make the reef fishing torch the broad butt is cut from each midrib. The first midrib is laid on the ground, 416 dull side (*tua,* back) down, the smooth side (*ngalivakevake*) facing upward. The second midrib is placed on top of the first, the dull side of the second leaf next to the smooth side of the first. Starting from the butt end, the worker gathers together with both hands the leaflets for a length of about 18 inches. Holding these with the left hand, he takes with the right hand two leaflets from the underneath leaf and twists these several times around the gathered leaflets of both leaves. Then he picks up with the left hand two leaflets from the top leaf and twists the first two leaflets three or four times around the second two leaflets and buries the twisted leaflets under the general gathering of leaflets. He gathers up all the leaflets for a second fastening about 18 inches from the first, and proceeds thus until he has made a compact bundle. When fired, the torch burns down to the fastening and then smoulders. The buried leaflets are then loosened by a shake or by a flick of the hand and flame up again. To dim a torch by lowering the head and then make it flame again by raising the head is termed *wakapulapula.*

226 Of the two fishers, the assistant holds the torch and carries the spare ones so that the fisherman is free to catch the fish. The light of the torch shows the sleeping fish or attracts them to the surface, where they are speared or clubbed to death. The partners progress along the reef shelf, probing with the torch on the inside of the reef. The fish caught are strung together on a coconut fiber or placed in a basket. Fish caught by reef torch fishing are: *kalama, ie, maono, analiki, mayi, kanae, ulaula, katiwa,* parrot fishes, and all the reef fish caught by reef groping.

Torching is also used in catching flying fish and *malau* (p. 98) and for canoe fishing outside the reef (*yi wakapulapula*). The canoe is either stationary or allowed to drift slowly down the reef. A torch is held by one member of the canoe crew to attract to the canoe such fish as night-feeding cangaroids, barracuda, dog fish, and tuna. The bait and hook used depend on the type of fish to be caught.

WEIRS AND SWEEPS

The walled stone fishweir (p. 159), used for catching reef fish in the shallow waters of the lagoon, is called *pa wati ika* or *tawanga;* the method of using it, *tali tawanga:*

> The weirs are placed in the reef shallows at places where the water at ebb tide is not more than 1 foot deep. The fish come inshore from the reef at high tide. At the ebbing of the tide, when they are carried out again, the exit of the weir is blocked with a scoop net (*tae yaeke*) or with a cone-shaped fishing basket (*ola wali ai*) weighted down with a stone. The fisherman watches the course of the weir and has his net or basket ready when the fish enter. His partner beats the water behind the fish and drives them to the exit. The mouth of the basket is closed as soon as the fish enter and then the basket is raised from the water. The fish are lifted out, transferred to another fishing basket, and the basket reset for more fish.
>
> Stone weirs are the property of the village on whose stretch of lagoon shallows they are built. All men of the owning village use the weirs freely at any time. Fish

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226 caught with the stone weir are: *umaliki, tahot, lupo, pakeva, lalauniu, lai, ume, palangi, malau, bayaye,* [illegible], *maito, ava, hiohiotai, aiule, yoyolo, pala ali, piepie, matacle, lali,* and *papa.*

227 Coconut-leaf weirs (*pa lama launiu*), less permanent than stone weirs, may be easily moved about the lagoon shallows according to the running of the fish:

> To make a weir, dried coconut midribs are split longitudinally. Three or more half-leaves are placed on top of each other, and the leaflets gathered together and tied with *kalava* coconut fibers. An appropriate section of lagoon or fish pond is chosen and stakes are driven into the bottom in pairs. The space between the two stakes of each pair is about 18 inches, and the series of pairs are about 6 feet apart. A sufficient number of pairs is set up to give the required length to the wings of the weir, the base toward the beach and the exit toward the reef. The bundles of coconut midribs are laid between the pairs of stakes to make the walls about 18 inches high. Some weirs (*matau*) have a permanent stone mouth to which the leaf-walls are linked.
>
> 226 The mouth of the simple leaf weir or of the composite stone-and-leaf weir is blocked with a scoop net or basket. Men inside the weir advance toward the closed exit, pounding the surface of the water with coconut midrib butts to drive the fish to the exit where they are caught. The fish caught in these weirs are the same as those caught in stone weirs.

Movable coconut-leaf sweeps (*pa lama launiu* or *kupenga lama launiu*) are used in the lagoon:

> Bundles of dried half coconut leaves are fastened together to make a long sweep about 18 inches high and 20 to 30 fathoms long. The sweep is carried to the lagoon and used to surround (*liku*) a lagoon pool where the water is about knee deep. The wings are drawn together (*wawauti* or *laulau*) and the fish clubbed or speared. Alternately the sweep is dragged over shallow water to the beach. Small fish are swept onto the beach or caught in the interstices of the midrib sections. The sweep is shaken out on the beach to dislodge the fish. Fish caught by this method are: *balomo, vete, momoa, ii, mano, botimu, lupo,* and *aiule.*

Semi-permanent fish runways (*alai lama*) made of *pa lama launiu* set between rows of stakes are used in the Yato fish pool at the causeway. These runways accustom the fish to go toward places where the fishermen set nets or lines when the tapu is raised from the pond and it is open for fishing. Rougher runways are made by placing bundles of coconut leaves in the water and weighting them down with heavy stones.

NETTING

A net full of fish is *puto ika.* The use of nets in fishing is limited to the hand fishnet (*tae yaeke*), seine net (*kupenga*), arched net with line (*tata tiutitiu*), long-handled dip net (*tae mololo*), and the flying-fish practice net (*tae pona*). (See pp. 206-209).

[227] 1. The hand fishnet (*tae yaeke*) is shaped like the *tae mololo* but is much larger, having a larger mouth and longer handle. I did not see one in use. It is employed as a scoop net to block up the seaward faces of short reef channels (*yi*) or of long reef

1. Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

226 channels (*ava*) leading to the open sea. Suitable channels on the reef shelf through which the water from the lagoon flows back to the ocean with the ebbing tide are blocked (*[illegible]*) and the fish caught. Fish caught by this method are the common reef and beach fish mentioned for weir trapping.

[133] 2. The seine net (*kupenga*) is used for beach and reef fish. Because the irregular coral bottom of the lagoon would soon rip the meshes of the net if dragged over the bottom, it is set, not hauled, for reef fish. Nets used for the small beach fish (*[illegible]*) are dragged over the sandy bottoms close to the beach. Nets for reef fish are set on the seaward side of the reef shelf. Some men walk inward with the wings of the net while others on the lagoon side of the reef shelf walk seaward, beating the water with coconut-leaf butts to drive the fish toward the net. The wings are closed around the fish, which are clubbed to death in water about 4 feet deep. To use the seine net, whether by setting or hauling, is *yuli kupenga*. The one net on the island at present is owned by the men of Ngake who sometimes use it on the reef off Ngake, at other times on the reef off Yato. When it is set off Yato, Yato men are always present; and the fish caught are fairly divided among the men of the two villages. Fish caught by this method include all the reef fish caught by spearing and by fish weirs.

227 3. The arched net with line (*tata tiwitiwi*) is used for reef fish. It is constructed on the principle of the Samoan arched net with line (27, pp. 477-478), but with different materials. As I did not see one in use, the description is based on informant's account. A special net is not made; the net from the *tae malolo* is unlashed and used. It is laid flat on the ground. A sennit cord passes from each of the four corners of the net to make a sort of bridle which takes the place of the thin rods used in the Samoan net. 226 To the apex of this bridle is fastened a hand line of sennit. The surface of the net is baited with *Tridacna* meat, and *Tridacna* shells are placed on the net mesh to act as sinkers. The net is let down from a canoe and laid on the bottom (*wolowolo*) in about 2 or 3 fathoms of water. The fisherman then dives to the bottom to spread out the net. When coral or reef fish swarm into the net to get the bait, it is quickly pulled up. The natural sag in the *tae malolo* net is increased as it is drawn rapidly to the surface, making it a fairly deep bag net.

4. The scoop net (*tae malolo*) is used from a canoe on the outside of the reef to catch all kinds of fish. The classic example of this type of fishing is flying-fish netting. The best time to catch flying fish is after a big squall (*timu ongo*) which has the effect of bringing together the fish. Flying fish are sometimes caught by individual fishermen in single canoes, more often by a fleet of canoes (*wao vaka*) which goes out by arrangement to fish competitively. For the purposes of this fishing, members of the crew are 226 named according to the functions they perform. In a six-seater canoe (*yeke ono*) the crew members, starting from the steersman and moving toward the bow are: the cap- 502 tain, who is steersman and principal netter (*tae wuli*); the *wuliwuli* ("mate"), who has charge of the canoe when the *tae wuli* is netting but paddles at other times and is also referred to as *te ala no te tae ani*, because he gathers together the fish as the netter throws them into the canoe; the *tae ani*, who paddles and also nets when the canoe is on a big shoal of fish; the *o lama* or *te tata yau*, who paddles, bails, and gathers in the fish thrown by the second netter and is also responsible for the torches (in a six-seater canoe there is one torcher; in an eight-seater, two torchers); the *ala no te ula* or *te tatami*, who paddles and gathers the fish together and who with the second man (*wuliwuli*) is responsible for keeping the canoe straight to the reef and moving it as required when the other members of the canoe are netting or bailing; the *tae una* or *tae ula*, who paddles, acts as a netter, and is responsible for warping the canoe (*[illegible] tuka*) as it is swung head-on to the reef, so that the canoe is kept dead head-on to the reef and swings neither right nor left from this position. In smaller canoes with a crew of only three men, the netter is in the bow, the torcher in the center, and the steersman in the stern. Previously only men fished flying fish, but today women and girls occasionally go out with the fleet to act as paddlers and torchers.

226 The canoes of the fishing fleet line up outside of and parallel to the reef. The leading canoe (*tiki*) turns toward the reef, pointing bow-on to the reef. The torcher in this canoe raises his torch so that it bursts into flame (*wakayila te lama*). All the other canoes in succession turn bow-on to the reef and raise their torches. The fishermen make booming noises by beating the washstrakes of their canoes with their hands, and produce loud sibilant sounds by sucking in the breath quickly through pursed lips. These two sounds, together with the glare of the torches, attract the fish to the surface. They skim through the air and are caught by the netters, who net on the starboard side of the canoe. As soon as the shoal of fish has been caught or frightened away, the torches are lowered and allowed to smoulder. The canoes turn parallel to the reef again and paddle farther along. The last canoe in the line now races up from behind the fleet and takes its place at the head of the fleet (*wakaloka te vaka muli ki mua*). Each canoe in turn leads (*tiki*) the fleet until all canoes have had their turn as leaders of the line. When the last canoe has reached the lead, it turns toward the reef and raises its torch. All the canoes follow suit, and the whole process is repeated. During an evening's fishing along the western reef, the canoes work down the reef from Wale until they are opposite Motu Kotawa or Motu Ko. A canoe which has an expert netter may catch about 200 fish during an evening's sport.

Fish caught by the scoop net on these occasions are: *te pu*, *yipo*, *ahu*, *malolo*, *ngalio*, *hapahapa*, *mauhe*, *matauli*, *ali*, *ume*, and *wiliwili*. All these fish, save *ie*, of which the schools are so big that the fish is easy to catch, and *ahu*, which is a very big fish, are counted as scoring fish in village flying-fish competitions. The height of the flying-fish season is from August to December.

ROD ANGLING

Angling, a common Pukapukan method of fishing, is of three types: beach angling, reef angling, or stationary canoe angling inside or outside the reef. The type of rod and hook used depends on the fish to be caught.

1. In beach angling the fisherman usually uses the *matila kalowa* rod and small *yehi* hook. He stands on the beach or in the beach shallows and casts his hook into the shallow waters. Women, as well as men, are skillful beach anglers. Small fish are caught by this method. All members of the *kalowa* and *vete* family are caught with a *yehi* hook, with bait of red *ngagu* crab and claws of *kaipea* crab. These fish are caught in daytime throughout the year. They are especially abundant at the new moon, during the southern solstice, and after a thunder storm. Other fish caught are: *manini*, *papaia*, *hata*, *katuli*, *lupo*, and *ali*. The bait and chum are those used for *kalowa*.

2. Reef angling includes angling from the reef shelf where the hook is cast on the outside of the reef, angling on the reef shelf itself, angling on the inside of the shelf where the hook is cast into the deep water of the lagoon, angling from coral heads inside the lagoon, and angling from the lagoon. In lagoon angling (*wakalukuluku*) the fisherman stands in water up to his neck. Holding the rod with one hand, he submerges his head to look for fish and then casts the hook in the direction of the fish.

[227] The rod used in these methods is the *matila patuki*, which is about the same in size as the *matila alvaalu* (p. 187). The type of hook varies for the kind of fish to be caught. Fish caught and hooks and bait used are:

226

FISH CAUGHT	HOOK	BAIT
[illegible] and pala	Yeli	Abdomen of [illegible] (pala [illegible])
[illegible], [illegible], [illegible], and [illegible]	Yeli	Crab or [illegible] fish
Eve and [illegible]	Yeli or tupa (depending on size)	Crab, ie fish, or [illegible]
[illegible], [illegible], and [illegible]	Tupa or composite pearl-shell hook	Crab, ie, or [illegible]
[illegible], [illegible], [illegible], and [illegible]	Tupa	Crab and [illegible] crab claws
[illegible], [illegible], and [illegible]	Tupa or composite pearl-shell hook	Live or dead [illegible]
[illegible] (caught only at night; [illegible] [illegible] incidentally to [illegible])	Composite pearl-shell hook ([illegible])	Live [illegible]
[illegible], [illegible], and [illegible]	Tupa or composite hook	Crab
[illegible], [illegible], [illegible] (best caught during evening rising of Antares in June or July), [illegible], [illegible], and [illegible]	Yeli with especially wide space between point and shank	Unga crab, [illegible], or ovum of Tridacna shell fish, and [illegible] clam (sun-dried black portion of Tridacna best for catching [illegible])
[illegible], [illegible], and [illegible]	Small tupa	Live [illegible]
[illegible], [illegible], [illegible], and [illegible] (best caught in early morning or early evening)	Tupa	Live or dead [illegible]
[illegible], [illegible], and [illegible] (especially moonlight nights)	Tupa or composite hook ([illegible])	Unga crab or [illegible] (especially on moonlight nights)
[illegible] and [illegible]	Tupa	Black unga with [illegible] seaweed ([illegible])
[illegible], [illegible], [illegible], [illegible], [illegible] (small bonito only), [illegible], [illegible], witiwiti, [illegible], [illegible], [illegible], [illegible], pala uli, [illegible], [illegible], [illegible], [illegible], and [illegible]	Yeli or tupa	Unga crab or [illegible] and clams (when used) of unga [illegible]

3. Stationary canoe angling, with the canoe anchored inside or outside the reef, is the method used for catching the following fish:

FISH CAUGHT	HOOK	BAIT
[illegible] and ie	[illegible] ([illegible])	Dead [illegible] fish
Ata, yipo, and [illegible]	Yeli	Unga crab [illegible] clams
Witiwiti	Tupa	Unga
Kopelu (when [illegible] the surface)	Short [illegible] line, small yeli hook	[illegible] of [illegible] ([illegible])
Rock groupers	Tupa	Crab or [illegible]

4. Reef angling with a line, but without baited hook, from the outer edge of the reef shelf into the breakers on the outside of the reef is [illegible] [illegible]. An unbaited composite hook is used, sometimes also using a feather fly of pigeon, tern, or tropic bird.

2.26 The few fish that may be caught in this way include: *pakeva*, *poro*, *[illegible]*, *[illegible]*, *[illegible]*, small *ata*, and *ngongomo* (bonito), *[illegible]*, and *[illegible]*.

FLOAT FISHING

Line fishing from beach or stationary canoe, the line lying horizontally on the top of the water and the hook supported by a float, is termed *wakamoe* fishing. The line is usually of two-ply twisted sennit (*uka*), and the float (*vakai*) is of [illegible] wood.

1. In beach *wakamoe* fishing the fisherman either casts the line from the beach or wades out about 20 yards into shallow water and then casts the line. The float is watched, and when it begins to bob up and down, both line and float are hauled in. The hook is rebaited, the line recoiled, and cast with an underhand throw. Fish caught by this method are:

Fish Caught	Hook	Bait
Mayi, uwon, aliki and kanae (best fished during full moon at spring tide, in early morning or early evening)	Small tope	Red unga crab and chum of kaipea crab
[illegible] (best fished during full moon at spring tide, in early morning or early evening)	Tope or kawilo hook of turtle shell	Black unga crab
[illegible] and ayale	Small tope	Uñga
[illegible], [illegible], and tawere	Small tope	Kaloma
Small taiva, [illegible], [illegible], [illegible], and [illegible]	Small tope	Kaloma and unga
Large ava and kiokioti	Very round tope	Black unga meat or seaweed
Brack-water eel (tuna wenua)	Tui wua	Bird intestine
[illegible]	Tope	Live or dead kaloma
[illegible]	Tope	Octopus flesh

2. Canoe *wakamoe* fishing is done inside or outside the reef, the hook being supported by the *vakai* float. The fish caught by this method are:

Fish Caught	Hook	Bait
Aku tangata and aku pa	Barbed hook (matau wakavae)	Crab or kaloma
Pakeva, lui (best fished in early night or before dawn in new or full moon)	Tope wanga and heavy line	Live kaloma, needle fish, or flying fish (lui brought to surface with live kaloma chum)
[illegible]	Barbed hook	Live kaloma bait and chum
[illegible] (in lagoon waters up to 10 fathoms, 300-400 yards from beach, at high tide in new or full moon)	Wooden hook (kau)	Live tupa crab, kaipea crab, or octopus flesh
Barracuda	Wooden Ruvettus hook	Flying fish, chummed to surface by refuse from bait

226 A float (*makai*) used for catching flying fish from a stationary canoe was
227 described by informants:

> The float consists of a section of *wakamea* wood about 9 inches long and 3 inches in cross section. To each end of the float is fastened a line ranging in length from 18 inches to 6 feet. The two lines on the same float are of unequal lengths to avoid tangling when fish are hooked. Each line has a *yeki* hook which is baited with *unga* crab, *kalowa*, or flying-fish meat. Several floats (*makai*) are allowed to float unattached around the canoe. When a float begins to bob, the fisherman paddles to it, disengages his fish and resets the float. Chum of *unga* crab meat is used to attract the fish to the float. The only fish caught by this method are members of the flying-fish family: *yipe*, *malolo*, *malolo puna akau*, and *maloloyae* (large-bellied balloon *malolo* fish which is not eaten and only caught incidentally).

STILL-CANOE FISHING

226 Still-canoe fishing with a vertically descending line and dead bait is termed *tomalo*; similar fishing with live bait is called *lulu*. When the *tomalo* system is used with a *yeki* hook for small fish, the method is called *yekiyeki*. In both types of fishing not more than 50 fathoms of line are paid out and the canoe is anchored inside or outside the lagoon.

[502] Outside the reef the canoe is kedged onto the reef. The anchor line (*honautau*) is buoyed up from reef to canoe with dry coconut husks. A quarter husk is split longitudinally for about 6 inches and the line wedged into this split. The natural spring of the husk serves to keep the line fast. About 12 husk buoys (*pulu longalongai*) are used for each 100 yards of anchor line. Several canoes fishing together are lined up in single file. The first canoe is kedged to the reef, and each of the other canoes is attached by about 10 yards of anchor line to the one in front. Canoes are kedged to the reef only in an offshore wind. Canoes anchored inside the lagoon are usually kedged with two anchors (any large stone serves as anchor), one at the bow, the other at the stern. In both *tomalo* and *lulu* fishing the canoe is faced to windward, and the line is dropped in the lee of the canoe. Both types of fishing depend for success on an ability to see the fish biting the hook. To make the leeward surface of the water calm and devoid of surface rippling, the fisherman chews coconut flesh, which he spits on the sea. The oil in the flesh spreads over the water and effectively calms it. Today a waterglass is often used instead of chewed flesh. Some fishermen prefer to fish the smaller lagoon fish when the sky is overcast and likely to rain, using composite shell hooks. Where *Tridacna* is used as chum, the backs of the opened shell are rubbed together, making a grating noise (*kalakala*) to attract fish; the two half-shells with meat attached are thrown into the water near the canoe. Fish caught by the *tomalo* method are:

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Fish Caught	Hook	Bait
Eve, ualiki, talao	Yeki or tope	Kaloma, ie, or crab
Uloulo	Tope or small composite hook	Crab or kaloma
Parrot fish	Yeki	Tridacna, crab, or seaweed
Pakeva, peva, lai, and lalawutu	Tope or composite hook	Dead kaloma
Ume, palangi, malava, kayuye, ua, and maito	Yeki	Crab, kaloma, or Tridacna
Malali and lalawi	Tope	Unga and kaloma
Malatea and eels	Wooden hooks	Tridacna, octopus, or sea urchin (vana)
Wuakula, luluau, tiwitiwi, tatatau, launumui, yama, tilitaeyimu, taiva, kokili, kili, uuulenga, yimu, atula, rock groupers, wapuka, and pakeva	Plain or barbed tope	Crab or kaloma (grouper papa best caught with bait of flying fish or octopus)
Sharks (occasionally when troubling albacore fishing; not eaten)	Large wooden hooks	Any dead bait

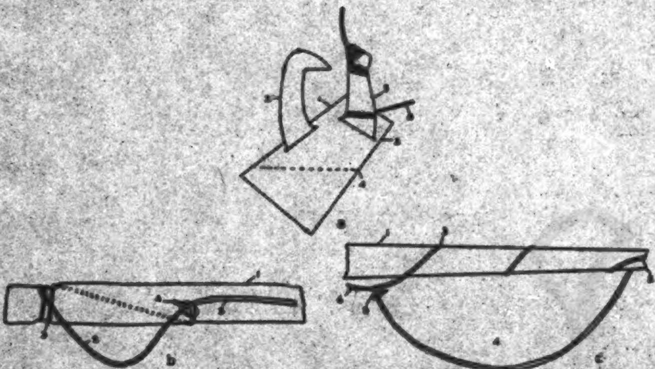
The method of attaching dead bait (*mounu mate*) to any type of single-piece fishhook is shown in figure 4, *a*. Live bait used in *lulu* fishing is any small fish. The point of the hook is passed through the back of the fish or the fish is tied to the hook shank by the bait string (*takele mounu*) so that it wriggles about in the water. *Kaloma* bait is preferred in *lulu* fishing for the fish also caught by the *tamalo* system, except for *ulua* and *lai*, which bite best with live *malolo* bait on a wooden hook. *Komuli* is fished only at night with a composite hook. *Lui* is fished only at night in the full and new moon, with *tope* hook. For *lulu* fishing the bait is caught before the planned expedition and kept alive in a submerged basket tied to the cross booms at the side of the canoe, within easy reach of the fisherman. The mouth of the basket is securely fastened to prevent the escape of the bait fish.

227 A special method of attaching sinker to line is employed in *lulu* fishing
254 for *kakai* and *pala* fish:

> The hook (*wakaelo*) is barbed. A secondary snood (*matai*) of two- or three-ply twisted *uuo* fiber about 7 feet long joins the hook to the fishline of sennit. Unlike sennit which hardens in water, *uuo* line becomes soft and slips easily from the sinker when jerked. Live bait of *kaloma* or *atule* is fastened by the tail to the shank of the hook. Hook and bait are laid on the surface of a smooth coral stone sinker, and chum placed on top is covered by a *puapua* leaf so that it will not scatter until the requisite depth is reached. The *matai* snood is passed around the sinker away from the barb of the hook, making two or three transverse turns to secure both hook and bait. The *matai* is then caught in a bight with the left hand and passed around the sinker once in the opposite direction, passing over the right thumb that holds the first transverse turns in place. The bight and the running part of the *matai* are tied together in a single overhand knot; sometimes a single slip noose is made on top of this overhand knot. Hook and sinker are paid out until the required depth is reached, when a sharp jerk on the line releases the sinker which falls away, leaving the hook, bait, and chum at a favorable depth.

226 Many men go outside the reef two or three times each week to catch *kakai*, the fish usually caught in fishing competitions. *Kakai* fishing is the favorite deep-sea fishing of the Pukapukan today:

224 [264] 501 285 502 A man catches his *halomo* bait in the morning. Besides his fishing gear and two or three coconuts for his day's lunch, he takes with him coconut-leaf mats (*pola launiu*) which provide protection from sun and rain and serve as sails. A mat leaning against the fisherman's back while he waits for a bite is easily thrown aside when strenuous activity is required to haul up the fish on the line before the sharks can take the fish from the hook. When the canoe is kedged to the reef and there is only a gentle breeze blowing offshore, a mat sail is used to prevent drifting onto the reef, thus obviating the necessity of paddling out from the reef again and again. A big sail in a fishing canoe would be cumbersome and would catch too much wind. A mat standing up in the canoe, with vertical midrib base and light guys running to outrigger booms providing support, gives sufficient belly to catch the wind and keep the canoe off the reef without dragging anchor.



227 284 223 FIGURE 4.—Implements for fishing and bird noosing. *a*, fishhook with bait attached: any dead fish bait (*moomu mate*) is attached to old style hook by removing head from bait fish and stripping off fillet (1), excluding backbone from belly backward so that flesh remains whole; hook (2) thrust through tail end (3) of fillet from flesh side, back through head end of fillet from skin side; fillet folded (4) along hook (dotted line), flesh side outward, skin side inward, and tail end of fillet lashed to shank (5) of hook, near shank knob, by transverse turns of bait string (6), fastened with half hitches. *b*, bird noose (*yele manu*): pole (1) about 12 feet long, 2 inches in diameter; noose (2) two-ply twisted sennit; one end of sennit passed transversely around notch end of pole (3), then down underneath two transverse turns; short free end (4) tied in square knot on bight; running end (5) passes down pole to bird catcher's hands at proximal end. *c*, fish noose (*houyele*) (C8152): wooden support (1) of *puapua* wood about 6 feet long, ½ inch in diameter at proximal end, ¼ inch in diameter at distal end which is notched (2); noose cord (3) of strong, three-ply twisted [illegible], wound around support, passed over notch (2) to form noose (4); free end knotted on bight (5) and cord (6) passes to proximal end of support.

226 *Tuku moana* fishing from a stationary canoe outside the reef with dead bait differs in two respects from both *lulu* and *tauala* fishing: *tuku moana* fishing is deep-sea hand-line fishing up to about 300 fathoms and involves

226 the use of a special composite fishing apparatus (*taumakomako*) consisting of four or more hooks fixed by spreaders to a single line. Two types of *taumakomako* are described elsewhere (p. 188). The hooks of both types are baited with dead *malolo* or other dead bait.

The *taumakomako* is lowered over the side of the canoe and line paid out until it is felt that the sinker has touched bottom; it is then heaved up a few feet. When the first fish is felt, the line is hauled in a little. This is repeated until all hooks have caught fish, when the whole apparatus is pulled to the surface. A strong fisherman is required to pull up the apparatus, weighted down with fish, from a depth of 200 fathoms to the surface with sufficient speed to avoid losing the fish to sharks. I did not see a *taumakomako* in use; it is said to be used occasionally by expert fishermen. The deep water fish caught by the *tuku moana* method are: *palu mumu, palu wutu, palu ave, palu panini, palu matapula, palu malau, palu uwo, palu tavatava, palu ulua, palu komuli, palu kakai,* and *palu katakata.* The giant *kakai* (*matawula*), which is so large that no fish-line is strong enough to hold it, is always noosed. An account of *tuku moana* fishing with a detailed explanation of the hooking and pulling in of fish is given in the story of Maui (1).

RUVETTUS FISHING

The method of fishing for *Ruvettus* (*palu kilitala* or *palu taeyi*) with a wooden hook (*kau*) is termed *yi palu.* It has been practiced in Pukapuka from very early times. An ancestor, Yaki, is remembered as the man who first fished *Ruvettus.*

221 251 The hook is attached to the line of sennit by the secondary snood (*wotai*) with an ordinary double overhand knot. The sennit line may be 300 fathoms long, though the usual fishing depth is about 200 fathoms. Two methods are adopted for attaching the sinker (*watu yi palu*) to the wooden hook. In the first method the sinker line, a strip of pandanus leaf (*woo tao kie* or *woo lauwilu*), is fastened to the sinker by a simple slip noose and to the bend of the wooden hook by a similar slip noose (overhand knot on a standing line). When the fish worries at the bait it bites through or snaps the frail pandanus, and the sinker falls away from the hook. In the second method the sinker line of pandanus is fastened to the sinker by a simple slip noose, but the free end of the sinker line is laid on the bend of the hook, and two turns of the line are taken around the bend of the hook and over the free end. When the sinker touches the bottom, the bottom takes the weight of the sinker, the two turns around the hook loosen, and the sinker falls free. The second method is used only by the expert. The non-expert, unable to judge accurately by touch when the sinker has touched the bottom, would pay out too much line, foul his hook on the bottom, and lose it.

Special bait attachment is used for the wooden hook. A fillet of *malolo* fish is laid on the point limb of the hook and tied halfway down the point limb with several transverse turns and an overhand knot. The remaining part of the fillet is laid back along the point limb so that it covers part of the functional point. The fastening of fillet to limb is with a strip of coconut midrib fiber (*kaleau*). This is used in preference to the ordinary bait string (*takele mounu*) of *woo* cord, because the sharp teeth of the *Ruvettus,* which can bite through the *woo* and destroy the *takele mounu,* are not sharp enough to destroy tough coconut fiber. The lashing of the point of the wooden hook to the point limb is protected from the teeth of the *Ruvettus* by a covering of sharkskin wrapped over the lashing and tied above and below with coconut midrib fiber. The bait fillet is fastened to the hook on top of the sharkskin protective wrapping. No chum is used for *Ruvettus.*

226 *Palu* fishing is carried out only at night after moonset of the first nights of the new moon. A man fishes alone or with several men in one canoe. After flying fish for bait are caught, the canoe is lodged to the reef by about 200 fathoms of line. The hooked *Ruvettus* is speared before being drawn into the canoe.

Other fish caught at the same time are *katakata*, *kopoo*, the giant *malau*, and a few other large-eyed, night-feeding fish. *Kopoo* and *Ruvettus* are considered sweet eating fish, though *kopoo* is said to have better flavor.

TROLLING

Three systems of trolling (*tolo*) for fish are used in Pukapuka:

1. Trolling while swimming (*taki ia*, *taki akuaku*, according to the fish caught). A man swimming in the deeper waters of the lagoon at dusk holds in one hand a few fathoms of fishline to one end of which a bone gorge (*au*) and bait are fastened. He pays out the line and lets it troll behind him as he swims. This is a method of catching needle fish.

2. Trolling from a canoe with a line (*tahitahi*). One end of a fishline is held in the hand or fastened to the cross boom of the canoe outrigger; the other end is paid out over the stern of the canoe and left to trail behind. The line is sometimes jerked by hand to add movement to the lure. At other times the line is paid out fully and then rapidly pulled in again. A composite shell hook, sometimes today a pigeon, white tern, or tropic bird feather, or a baited hook serves to attract fish. The bait is alive or dead according to the fish to be caught. The trolling is across the lagoon by canoes going to the reserves, along the outside of the reef, or farther out to sea.

3. Trolling with a rod (*matila*) over the stern of the canoe (*tahi*). An unbaited composite hook, a feather fly, or a baited hook is used. If the fishing pole is not oscillated with the hand, movements of the hook or lure derive only from the motion of the canoe. Rod trolling may be inside or outside the reef. Fish trolled are caught equally well with rod or line except bonito, *pala*, *kaumi*, and *ahaia*, which are caught exclusively with trolling rod and unbaited hook.

Fish trolled with rod or line from canoe and with baited hook: *aiaa* with live *malolo* bait and wooden hook; *tuta* and *lai* with live or dead *kaloma* bait; [illegible] with live *malolo* bait; *ahaia* (close to the reef) with live or dead bait; rock groupers (along the reef) with any bait; *pakiva* with a *tope* [illegible] hook and live bait of needle fish, *kaloma*, or *malolo*.

Fish trolled with rod or line from canoe and with unbaited hook or feather fly: *ahaia*, the parrot fish, *pakeva*, *pora*, *kaleuala*, and *lai* (with fly of pigeon feather); *malau*, the rock groupers, *pakeva*, *lai*, *tuta*, and *wawa* with a fly of white tern or tropic bird feather.

BONITO FISHING

Fishing for bonito (*yi atu*) requires special techniques and was formerly tied up with much ceremonial. The bonito (*atu*) fishing season opens with the morning rising of the Pleiades and lasts for three to four months thereafter. As bonito schools (*kaunga atu*) are believed to follow the schools of flying fish, bonito fishing comes after the flying-fish season has already commenced. Bonito bite best in the new and full of the moon.

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776
782
At the rising of the Pleiades the men of the island formerly gathered together to decide what fish were to be specially fished during the coming season and what was to be the composition of the crews for the various fishing groups. There was no special religious ceremony to open the season but the priest of the god *Malokilokanga*, protector

226 of bonito, communicated with this god to insure his favor during the coming bonito season. The old men (*tupele*) decided which of the younger men should make up the 776 bonito-fishing group (*notonga*) for the season. None but the men of this group might fish *atu*. The *notonga* fishermen were fed by the old men, who gave them cooked talo 772 to take with them each day they went fishing. The fish caught were all brought to the meeting place ([illegible]) of the old men and there divided among the people of the island with the proviso that each man of the fishing group was allowed to have the head of the fish he caught in addition to his share of the fish. The group which caught *atu* one year automatically became the group for noosing *pala* fish the next year. All fish 226 noosed were similarly divided by the old men among the people. The men of the 868 *notonga* group, which consisted of about four canoe crews, each of five or six men, were taught the elements of *atu* fishing, the rules, tapus, and skills before the season started. There were no special names for the crew members. The best fisherman ([illegible]), who was usually also the oldest man of the group, became captain. His was the canoe that always shot the reef passage first. The next canoe to follow had the next oldest man of the *notonga* as captain, and so on for all the canoes of the *notonga*.

226 Besides having care of the canoe and fishing gear, the captain of each canoe was responsible for providing bonito hooks. He had to provide one hook for each member 763 of the crew, including himself; in a six-seater canoe the captain went fishing with six bonito hooks on his bonito rod. If, while the canoe was fishing, a storm arose that 431 seemed likely to break the canoe up, the captain gave to each member of the crew one bonito hook from those on his rod. Each man tied his hook around his neck to act as a breast ornament (*yana*); were the men drowned thereafter, each went to his death provided with his death ornament. If there were too few hooks to go round the crew, as might sometimes happen if hooks were lost from the line while fishing, the captain gave to those without hooks any article of value in the canoe—a section of anchor rope or ordinary single-piece hooks. In this way no member of the crew lacked a death gift. The theory behind this was that the captain was responsible for getting together his crew, for their safety in this life, and for their dying at sea as well provided with gifts as if they died on land. To give out the gifts was *wakayana*, and the gift itself was *yana*, as distinguished from the death gift on land, *watonga*.

Atu fishing was a somewhat perilous occupation because the canoe might press out far from land in pursuit of a shoal of fish and, caught in a storm, be unable to make a landfall again.

226 [782] The canoes of the *notonga* left the village early in the morning. As they passed the rock called Te Ulu-mama-o-te-tokaiau, which juts out of the water opposite Yato village, the captain placed a malo, hook, or simple coconut leaf on this rock as a gift (*wakatetea*) to the god Malokitelangi, that the god would give the canoes good fortune. It was tapu for any canoe going across the reef to scrape the bottom on the coral. If a canoe did this, it could not proceed farther but had to return to the village without fishing during the day. Rain drives away bonito fish from the surface, and if the canoes did not sight fish after patrolling for some time, it was permissible for them to return to the reef to rest. All the crew, save only the bowman, might step out on the reef and walk about; if the bowman forgot the tapu and stepped out, the whole crew had immediately to return to the village without further delay, even if meantime a shoal of fish had been sighted. If this tapu was disobeyed, the canoe was likely to be destroyed by lightning. When the victims of such a mishap as the breaking of a tapu returned to the village, they were greeted with insults and labeled *ngongo elo* (stinking *ngongo* birds). The shame of the crew was great if later in the day the other canoes of the group returned loaded with *atu* fish.

226 [825] Bonito was not regarded as a fish (*ika*) but as an animal (*manu*). Fishermen located bonito schools by the flocks (*inoo*) of seabirds following them. Canoes trolled up and down outside the reef. The captain set against the bonito rod, which was sup-

226 ported by the notch in the rear seat (*yulanga matila*). When a bonito engaged the hook, the rod pressed against the captain's fundament. He reached out with his right hand, grasped the rod, swung it around to the right side of the canoe, and landed the fish in the canoe. When the crew sighted a school of fish, the men paddled furiously to reach the school and kept paddling to remain with it. The captain stood up and faced the rear of the canoe. He held the handgrip (*tukau*) of the rod against the thigh with the left hand, grasping the rod some distance toward the point with the right hand. The man next to the rodman gently splashed (*tapipi*) water on the hook which trailed on the surface. When a bonito bit the hook, the rod was flipped up and the fish came flying in toward the rodman. It struck him on the chest or belly, and the impact of the striking disentangled the fish from the hook. As the fish fell into the bottom of the canoe, the rod was immediately swung out again. To swing the fish to the belly is *yi tata*. A bungling or inexpert rodman who lost his fish in mid-air was referred to as *yi kowikowi*.

226 While the canoe was on or near a bonito school, it was tapu to drop anything over-
board, whether paddle or other article, or a fish from the rod. The dropped object or
688 the dropped fish, by its rapid tail-spin descent through the water, frightened the school.
The man who dropped anything overboard was reported to the old men and was fined
578 by this body 50 talo puddings (*mawa*) or the equivalent. Today, when one man has a grudge against another, a pleasant form of revenge is to wait until the enemy is on a school of bonito and then to come up quietly from behind and drop a paddle overboard. It was also tapu formerly to let the rod slip from the thigh. The rodman who allowed his rod to slip was reported by his crew to the old men and by them fined 1,000 talo puddings. The slipping of the rod was extremely serious: it not only allowed a fish to drop and frighten the school but might also entangle the hooks and waste precious time. If such an incident was not reported to the old men, the god Malokitelangi punished the crew by striking the canoe with lightning.

226 When the canoes came back to the reef after a day of fishing, the crew signalled
the people waiting on the western beach the number of fish caught during the day.
202 These signals were made by holding a wet paddle in the air and twisting it so that it flashed (*lapa*) in the sunlight. One flash given by a man standing upright in a canoe meant that the canoe had caught 100 fish, two flashes meant 200 fish, and so on. If one canoe had caught 150 fish and another canoe 50, then 50 fish from the first canoe were transferred (*taukala*) to the second canoe. The man in the first canoe stood to flash his paddle, but the man in the second canoe remained seated when he flashed. If two or more canoes caught between them more than 100 fish but less than 200, then only one standing flash from one canoe was allowed. Those canoes allowed one or more flashes each approached the reef first.

226 The captains of the returning canoes carefully washed their bonito hooks and lines
776 in fresh water after arriving home. This act is *wakawangale*. Hooks were soaked in a bowl (*kumete*) of fresh water, or submerged in a fresh-water pool. Placing hooks in a pool of water was sometimes perilous as stories tell of men whose hooks were stolen from these pools while they attended to other duties. Hooks lost from the rod at sea were believed to be taken by fish to the undersea house of the god Totolea and there stored by him in the rafters of his house.

226 Bonito fishing is dying out in Pukapuka today, because, it is said, the
178 fish are vanishing from Pukapukan waters. The old ceremonial is already
523 gone. Whereas formerly a canoe might easily catch 100 or more during one
764 day, now a canoe is lucky to return with three or four fish, an inadequate
return for the hard physical labor involved. Bonito hooks are hoarded as valuable heirlooms and for use as death gifts.

NOOSING

226 254 Noosing (*yele*) is a common Pukapukan method for catching eels, sharks, swordfish, *matawula kakai*, and *pala*. No bait stick, whole fish bait, or special type of noose is used for the eels in Pukapuka, nor are sea centipedes or crayfish caught by this method, as is reported for Samoa (27, p. 421). The Pukapukan noose of three-ply twisted cord of *wao* fiber is made by passing a free end of the cord around the running section of cord and tying it around itself with an overhand knot. The noose is made about 3 feet in diameter. (See p. 188). Fishing is outside the reef:

> A teaser bait (*pakapaku*) of bonito flesh is tied to a line and trolled behind the canoe to attract the fish. As the canoe trolls the teaser, the crew make their paddles resound (*tangi*) by hitting the water and beating the sides of the canoe with them. When the fish is seen, the teaser is pulled into the canoe, the noose placed on the *kauyele* stick, and the stick put into the water. Chum is thrown out to attract the fish toward the noose. The stick is withdrawn and more chum thrown into the water on the farther side of the noose. The noose is thus between two chums and is maneuvered so that even a wary (*hailopa*) fish comes up on the starboard side of the canoe. When the fish moves through the noose to reach the second chum, the noose is pulled tight around its tail. The fish is hauled to the canoe and clubbed before being lifted in. This method of noosing fish corresponds to similar methods described for Samoa (27, p. 422) and Vaitupu (19, pp. 56-60). In Pukapuka however there is nothing corresponding to the hurling of insulting remarks (*tapatapa*) to the fish to make them indiscreet, as Kennedy reports for Vaitupu.

TURTLES

225 Three varieties of turtle are common in Pukapukan waters: *matawea*, the largest green turtle; *wonu*, the ordinary green turtle; and *wonu kea*, the hawk's-bill turtle. When turtles are sighted from the shore, the news is called out through the village and the people ask, "E talau? E taepu?" (Is it big? Is it small?). There are three methods by which turtles may be captured:

> 1. *Puke wonu*, overtaking or seizing a turtle. A man swims out to sea in the season for turtles. He may swim several miles before he sights the animal. Coming up to a turtle, he gets on its back and gouges out its eyes with his thumbs, at the same time forcing the head of the animal upwards with hand pressure. As long as this pressure is continued, the turtle will keep to the surface and will not sound. Alternately the fisherman catches the foreflippers of the turtle with his arms and holds them up; this also prevents the turtle from sounding. If the fisherman is expert, he steers the turtle over the reef to the beach; otherwise he holds the animal until a canoe arrives from shore. An expert who is a good swimmer, strong and skillful, can bring a turtle ashore unaided. When turtles to be caught by this method are seen from a canoe, the first command is for absolute silence, for the turtle sounds immediately noise is heard. One of the crew slips into the water, swims up to the animal, and grips it as just described. His companions stretch apart the foreflippers, tie them to a stout stick, and lift the animal into the canoe.
>
> 2. *Yele wonu*, noosing. A man swims out to sea, often with a canoe outrigger as a float, while he waits to sight a turtle. When he sees one, he takes a line with a running noose in the end and dives and slips the noose over the foreflipper. The noose is pulled

225 tight and the free end tied to the outrigger. As long as the turtle is attached to the outrigger, it will not sound. The fisherman waits for a canoe from shore. The turtle is lifted into the canoe and taken ashore.

753 825 In both these methods great care is taken to prevent the penis tail of the male turtle from locking the fisherman's leg against the carapace. Once this is done, the grip is viselike; the turtle sounds, drowning the fisherman. The tail is also a formidable weapon. If it pierces the body of the fisherman, priapism and death are extremely likely. The male turtle is much more difficult to catch than the female.

225 825 3. *Wuli wonu*, turning over the female turtle on the beach. The turtle-laying season begins with the morning rising of the Pleiades and continues until their evening rising. Only the two green turtles lay eggs on Pukapukan beaches. The fisherman goes to the outer beaches and watches for turtle tracks or turtle nests in the sand. When he finds a nest, he counts the eggs. It is believed that the female turtle returns to her nest after a given number of days depending on the number of eggs in the nest. Thus if there are 120 eggs or more in the nest, she is expected to return in 8 nights to lay again; if there are 100 eggs, she will return in 10 nights; if there are 80 eggs, in 11 or 12 nights; if 60 eggs, in 14 nights. The outer beach is then watched on the appropriate night at the full of the tide. When the female turtle comes ashore, she is turned over on her back and rendered helpless.

225 262 Formerly all turtles were taken to the meeting place of the old men and there the meat, fat, eggs, and shell were divided among the people of the island. The man who caught the turtle was given its head besides his share of the flesh. For the old men were reserved the belly fats (*pukualonga*) and the major internal organs (*ngakau matua*). It was tapu for any others but old men to eat these parts on pain of sickness and grey hair. The custom of dividing a turtle among all members of the community survives today.

OCTOPUS AND CRAYFISH

226 The Pukapukan levies on other creatures of the sea or reef besides fish to provide him with food. The long-tentacled octopus (*weke makave loa*) and the short-tentacled octopus (*weke makave poto*) are caught for bait, but they are not eaten.

Formerly they were speared or fished with line and hook. Today a common way to catch them is to throw several handfuls of coral lime (*punga*) into an octopus hole. The lime dissolves and causes the animal to emerge, when it is speared or grasped with the hands. Squid (*wheke*) is eaten and used as bait. It is speared or caught with a hook.

Saltwater crayfish (*ula*) live in communities in large holes in the reef. Knowledge of these holes is kept secret by those fortunate enough to know them. One who knows where they are can pick out a crayfish from his hole at any time; others fish for *ula* in any likely hole on the reef shelf.

The best time for finding crayfish is on the first three nights of the new moon after moonset. Using a torch, a man visits holes of the reefs and picks out the ula with his hands (*lalao ula* or *tango ula*). Crayfish are caught also during the nights of the full moon at high tide. They are sometimes caught in torch fishing (*lamalama*) or in seine netting at dusk. A final method is to fish for them in holes, with a rod, a single-piece barbed hook, *kaloma* bait, and plenty of chum.

SHELLFISH

227 *Tridacna* shellfish (*payua*) is obtained from the lagoon corals with the
aid of a cutting implement (*kalo payua* or *maniu payua*) of *ngangie* wood
about 12 inches long. One end is a double-edged, pointed, sharpened blade
(*kalo*). The other end (*kalokalo*) is square and has a cutting edge on one
side only. Between the two blades is a smooth section of wood used as a
handle. Today a piece of iron with wood lashed along the median line is
[883] preferred to the wooden implement. Both men and women procure *payua*.
Groups of girls or mixed parties of young men and girls go shellfishing to-
226 gether. An outrigger is often taken out from shore to act as a float.

By one method the fisherman dives for *payua* in deep water. He cuts the membranes on the two open half-shells with a twist of the *kalo* blade of the knife to prevent the shell from closing. Then with the *kalokalo* blade he makes a circular sweep around both shells and severs the flesh from the shell. He brings the flesh to the surface, leaving the shell below the water. The flesh is placed in a basket tied to the outrigger float. Considerable skill is required to remove *Tridacna* meat with the implement in the time the fisherman can remain submerged.

Another way to procure *payua* is to swim or canoe out to the coral heads of the lagoon and pry (*napinape*) the shells from the coral with a digging stick. Today an iron crowbar is preferred for this work. The shells are loaded into the canoe and brought ashore, where the flesh is cut out with a *kalokalo* or knife. On coral heads in the lagoon close to Motu Ko are huge piles of *Tridacna* shells (*ngalipayua*) which testify to the value placed on *payua* meat in past times.

226 The flesh of the pearl shell (*uwa ui*) is not eaten. The shells are grasped
321 in the hand and twisted so as to break off the tentacles anchoring the shell
to the coral. Pearls were of no value when found inside the shell and were
commonly thrown away.

The general name for clams is *pipi*. Various varieties are *pipi yeyenga*,
pipi kulo, *pipi tonga*, and *ngu*. They are not eaten but the shells were
[413] formerly valued for cutting implements, coconut graters (for which the clam
ngu was used), talo scrapers, and occasionally for lancets in surgery.

Periwinkles (*alili*) come over the reef in large quantities at the full of
226 the moon and are especially numerous during the time of the morning rising
262 of the Pleiades. They are collected on the reef by hand by children and
adults and form an occasional article of diet, roasted in the shells. The
flesh is pulled from the shell with the fingers or a pointed stick. Periwinkles
are considered hard to eat and not very satisfying but pleasant enough for
a change.

REEF CREATURES

136 Reef creatures found on Pukapuka but not eaten, though sometimes caught on other Polynesian islands for food, are sea porcupines, of which the Pukapukan names four: *wetuke* (a blunt-spined sea porcupine); *vana* (a

136 sharp, long-spined porcupine); *tala pu mutumutu* (a short-spined porcu-
752 pine); and *uluulu akau* (a small, bluish-spined porcupine). If a fisherman
steps on the *kalamea*, a sharp-spined starfish, when walking on the reef, his
foot is stuck full of spines. He turns over the *kalamea*, places his foot on
the suction pads of the creature, and allows it to suck out the spines from his
136 foot. Five varieties of bêche-de-mer are: *matua kalou, louili kula, louili uli,*
louili akau, and *louili taupulepule,* which live under the sand. *Uunkoa* is
825 a mollusk that lives in a tapering tunnel in the coral. If stepped on, its
787 poisonous shell produces terrible sores in the foot. The shellfish *valuyi*
(*Nerita polita*) found on beach or reef, is used as a head for the water
226 bottle scraper, also called *valuyi*. If a man found a jellyfish (*kalukalu*
moana and *ngako*) on the reef, he took it home, carefully sun-dried it, and
hung it up to the rafters inside the house, for it was believed to have been
sent by the god of the paternal lineage and was taken as a sign of the god's
good favor. Two varieties of sea centipede are *molokau tai* and *valou*. Only
226 the *valou* are caught and eaten. To obtain them a noose is made in a piece
of two-ply twisted sennit and held over the entrance of the sea centipede's
hole. Chum of any kind is placed in and around the hole. When the *valou*
comes from the hole to get the chum, the noose is drawn tight. Another
method is to spear the *valou* through the head as it comes forth to get the
chum.

CRABS

Three varieties of crab (generic name *tupua*) are caught on the outer beaches on certain nights of the moon and two stages are distinguished in the monthly growth of the three varieties:

> *Kaipea* are caught on the thirteenth and fourteenth nights; *tupa*, on the fifteenth and sixteenth nights; and *kaveu* (robber crab) on the seventeenth and eighteenth nights. During these nights the crabs move from the bush to the sea to wash and change their shells. On other nights of the moon crabs for bait can be obtained inland with more difficulty. On the evening before a man plans a fishing expedition, his children go out with torches after dark, hunting around trees in the bush and in holes. The crabs are put into a basket and kept until ready for use. Enough crabs for one or two weeks' fishing may be collected at one time.
>
> 226 In the first stage of growth (*tama te tupua*) during the new and full moon the
> crab is filled with fat much esteemed as a food delicacy. In the second stage (*pupu te*
> 262 *tupua*) the fat has turned into yellow masses of eggs that are bursting from the abdo-
> men of the animal. Crabs are not eaten at this time because neither eggs nor fat are
> 185 considered tasty. *Kaveu* is protected at the present time by a general agreement
> (*pulenga*) because it is thought to be dying out. Only large *kaveu* are killed; young
> ones caught accidentally are freed. Robber crabs in the reserves are kept as reserve
> food supplies and are caught only by arrangement by the people of the village. This
> communal catching and distribution of crabs among the people of the village (*lavaya*
> *kaveu*) enable all the people of the village to share in the food delicacy. If *kaveu* were
> not reserved (*wakaya*), children and active young people would hunt them all the time,
> and the older peggle might not receive their fair share.

226 Three methods are employed to catch *kaveu*:

The first method is *lamalama kaveu*. A lighted torch is thrust into the crab hole. The torch smoulders and the smoke forces the crab from its second hole, when it is promptly caught. In the second method (*yokoyoka kaveu*) a pointed stick is thrust into the ground or into holes to locate the crab. The hand is then put down into the hole to draw out the crab. The third method is *wakapoa kaveu*. Coconut gratings are toasted over a fire until they become highly odorous and are then placed in the bush to attract the crabs. A few hours later a man visits the place and picks up the congregated crabs.

Crab hunting and killing is *wuli tupua*. The crab is picked up by the shell and, with a quick twist, the head is bent back from the mandibles and 252 broken off. It is prepared for eating by roasting.

BIRD CATCHING

223 Of old, birds were caught principally for food, though the feathers were 237 used secondarily as decorations for the hair and for the malo made of sennit. Today feathers are used as flies in fishing.

Birds are part of the reserve land foods and are tapu for most of the 422 time. A decision to lift the tapu is announced to the people by the guards. 621 The young men communally gather the birds which are divided among the people of the village. Small land birds are occasionally caught privately.

223 All birds are considered a great delicacy, but the young *lakia* bird is preferred. The owners of a new canoe might formerly obtain permission from 223 the village to visit the reserves to procure quantities of *lakia* for the feast 262 which marked the conclusion of the work on the canoe. The birds were shared among the people of the village and the canoe afterward referred to as *vaka kai lakia*.

Birds were never kept as pets or decoys. When caught as a fledgling, a 231 bird was placed alive in a cone-shaped coconut-leaf basket (fig.16)[1/h] and 223 transported back from the reserve therein. The basket with the bird was suspended from a tree near the cook house. The bird was fed with coconut flesh; a new basket was made when the bird grew bigger. When the bird matured, it was killed and eaten. Today a bird is occasionally kept in a small four-sided wooden box hung on a tree near the house. Its wings are broken to prevent escape. It is fed by the children and killed when mature. One man in Yato keeps two semi-wild *noa* birds tied by the leg to a log near his house. When they escaped one day and walked through the village, everyone ran before them with shouts of "Kai tangata!" (Man-eater). It was some time before the birds were recaptured and the village settled down again to normal routine.

223 1. Netting. The method of catching birds by use of the bird net (*unata*) is termed *wakayi mana* (to encircle the bird with a net). (For technical details of the construction of the net, see p. 209).

[1/h] [See p.140, category 118 -- analyst]

223

The catcher goes during the day to a suitable pandanus tree close to other trees where the birds are wont to perch overnight. He trims the tree so that he can climb to the topmost branches without lacerating his body on the sharp spines of the pandanus leaves. Trimming away the leaves and projecting branches also makes it easier to drag the bulky bird net to the top of the tree. At dusk, he again climbs the tree. Then as the birds return from their sea feeding grounds, the catcher utters a guttural mimic cry. The bird is attracted within the radius of the net by the call, and is secured with a sweeping, downward scoop of the net. The mesh of the net is drawn in and the bird removed. It is killed by a sharp bite of the teeth on the back of the neck and thrown to the ground. Birds are caught by this method for about two hours at dusk. The birds caught are principally *ngongo*, but also *kotawa*, *noo*, *takupu*, *lakia*, *kaka*, *ali*, *akiaki*, *wili*, *manu ali*, *tavake toto*, *tavake mokomoko*, and *matiku*.

An alternate use of the net is mentioned specifically for one bird, *kaka*. The method is termed *popo ki te tae* (slapping down the net). The *kaka* bird comes ashore at night to nest in the sand on the back beaches. The catcher, carrying his net, crawls up to the bird. When close, he pushes the net forward and places the belly of the net over the bird as it nests asleep. Then he takes the bird from under the net and kills it. The emphasis is on quietness and speed so as not to alarm other birds nesting close by.

Some nonresident birds, *ali* and *lenguleu*, come to the outer beaches, not to lay, but to rest, flying low, and to feed. The catcher advances with his net toward a flock of birds, and scoops the birds into the net as they rise and fly low about him.

2. Hand catching. Birds are taken by hand (*tango manu*, *tango kotawa*, etc.) when it is quite dark and they have flown in from the beaches.

Before the birds have returned, the catcher climbs a suitable roosting tree, *puka*, coconut, or pandanus. He waits quietly until the birds are roosting. Then he reaches out his hands and grasps the birds. He wrings each bird's neck with a quick twist before it has time to squawk, drops it to the ground, and seizes the next. Most birds are best caught by this method when a fresh wind blows, whether or not there is a moon. The wind makes the outer ends of the coconut and pandanus branches sway so much that the birds come to roost close in to the trunk, where they are easily caught. Climbing bandages are used if the catcher has to wait for a long time in the trees. The hazards of bird catching by this method are well brought out in the conclusion of the story of Te Nana and Yi (p. 402). Birds caught by the *tango* method are: *kotawa*, *noo*, *takupu*, *ngongo*, *lakia*, *kaka*, *akiaki*, *manu ali*, *tavake mokomoko*, and *matiku*.

Catching by hand is applied in a special way to the wild grey ducks which rest temporarily in Pukapukan ponds or calm waters in their migrations southward over the atoll during November and December. The catcher places a basket (*ola*) over his head. Peering through the basket, he swims (*kakau*) with the minimum of effort, toward the place where the birds are resting, taking every precaution to make the basket look like drift material. When he comes close to the birds, he grasps them with his hands and kills them.

3. Striking. Knocking birds off branches with the hands or a stick is used especially for catching young fledglings nesting on the branches of the pandanus tree.

Two men go bird catching. One mounts the tree and catches the birds with the hand or knocks them (*ki* or *yeu*) to the ground with a stick. His partner stays on the ground, catches the birds as they fall, and kills them. This method is used for *lakia*, *kaka*, *ali*, *akiaki*, *manu ali*, and *tavake mokomoko*.

The method of striking down the birds with a pole is used for low-flying, nonresident birds. Two men go to the nesting places on the outer beaches. As the birds are disturbed and fly away very low, the catcher strikes them down with a long pole.

223 His partner catches the birds on the ground and kills them. Birds caught thus are *ali, wili, manu uli, tavake toto,* and *tavake mokomoko.*

Catching birds by throwing stones or sticks is common. The catcher goes to the beaches armed with throwing stones of coral, or with a number of short, heavy sticks about 2 feet long. He comes near the feeding or nesting places of the birds and attempts to kill them by throwing (*kamu*) his missiles. This method is used for *wili, manu uli, tavake toto, tavake mokomoko, kalewa, lupe,* and *matiku.*

4. Lure used for the tropic birds.

The catcher collects a handful of the young white leaves of the pandanus tree. He goes to the place where the birds are resting or feeding and waves the leaves in the air (*wakaikaika*), at the same time uttering a guttural cry, "I ka! i ka!" The waving of the lure and the cry attract the birds which come fluttering overhead. They are then netted, knocked down, or caught in the hands of the netter or his assistant.

5. Noosing and snaring.

A noose (*yele manu,* fig. 4,*b*) of the required size is attached to a pole which is thrust out along the branches to the place where the bird is nesting. The noose is placed over the neck of the roosting bird and pulled tight, strangling the bird. Then the pole is pulled in while the bird is disengaged and thrown to earth. The pole noose is reset and pushed out again for the next bird. This technique is used for *kotawa, noa, takupu, ngongo, lakia, kaka, akiaki, wili, manu uli,* and *tavake mokomoko.*

[28-4] A variant method is to use the noose without the pole. The noose (again called *yele manu*) is made with a square knot on a bight and held in the hand. The catcher crawls up to the bird nesting in the sand and drops the noose over the bird's neck, pulls it tight, and strangles the bird. Noosing by this method is used principally for *lulu.*

Two methods of snaring birds also involve the use of the noose principle. The bird snare (*maenga*) is described in figure 48,*b*. A piece of beach is chosen which the birds are in the habit of frequenting. The *maenga* is placed on the ground and firmly anchored by a sennit cord passing from one end of the snare pole to a large coral stone near by. The catcher gets behind a group of birds and gently drives them in the direction of the snare. Whenever the birds stop moving, the catcher stops; when they move again, he directs them toward the nooses. The birds hop along, come to the *maenga,* which they are unable to avoid owing to the projecting wings, advance through the nooses, and are caught by the feet. The catcher comes up to kill them. Birds so caught are *kuwe, tuli, kolili, polopolouenga, kiu, talakoka,* and *taiko.*

A second type of snare is the coconut-shell *maenga ngaipu* (fig. 48,*a*). Five or six of these are set up on a suitable beach and coconut flesh is strewn about the ground. The bird is attracted by the coconut, inserts its head into the nut to peck at the flesh and entangles its feathers in the sennit fiber nooses. The bird struggles to escape, usually overturning the coconut which falls on top of it. The bird is removed and the snare reset. This snare is used for *tuli, kolili, popopolouenga, kiu, talakoka,* and *taiko.*

6. Line catching. Birds are also caught by a method involving the use of fishline. One variant of this method is used for birds (*talawue* and *tala*) that skim the water close to shore looking for small fish food.

To the end of a small fishline a gorge (*au*) of fishbone is fastened. *Kaloma* bait is tied to the gorge and the line is laid along the beach at water's edge. The birds come down for the bait, the gorge sticks in their throats, and they are firmly caught. A second variation of this method, called *wakaolo manu,* is used for birds that hop about feeding in the shallows and wet beaches. A piece of the abdomen of the hermit

223 crab (*unga*) or, alternately, a bait of small periwinkle meats or centipedes (*tuli*) is tied to the ends of each of several lines which are laid across the beach, the other ends being fastened to a near-by tree or to stakes. The birds swallow the baits, are unable to disgorge them, can not fly away, and are caught. *Kouw* and *matiku* birds are caught thus with *unga* bait, *tuli* with periwinkle or centipede bait.

7. Fowling line, generally used to catch sea birds.

A length of uso line is attached at one end of a pole from 6 to 9 feet long. A piece of coral stone weighing about 2 ounces is fastened to the free end of the line. When a bird has been attracted close to the tree in which the catcher hides, or when it circles low over the beach, the line is thrown out. The weight of the stone carries the line round the bird. The line encircles the bird several times and entangles its wings. It is then drawn to the catcher. No decoy birds were used in this method of bird catching, nor was the stone weight shaped in any way. The use of line, shaped stone, and decoy bird is reported for Apemama by Woodford (19,p.294), the use of line and shaped weight for Vaitupu (19,p.294), and for Nauru (14,p.289).

HOUSE BUILDING

342
476 The framework for small houses is erected by the owner and a few of his friends. If a big house is contemplated and speed is required, the kinship group is mobilized and the work continued until the frame is completed. The able-bodied men work on the frame while the older men work near by making the sennit for the lashings. Today the framework of most small houses is fitted together in some shady, cool place whether the actual site of the new house is unoccupied or already occupied by an old house which is to be replaced. When the frame is completed, it is taken to pieces, transported to the house site and there put together again. The roof framework is fixed together permanently at the work site and then bodily transported to the house site. In big houses, however, the frame is usually erected on the house site in the first instance. The house framework is usually built during the cooler weather just after the winds swing round to the southeast.

342 Unless the house is very small, the thatching (whether of a new or old house) is done by a working party. The sides and ends of each roof are divided into sections (*wononga* or *tuta*) of a certain width running from eaves to ridgepole. Two to three sections are generally reckoned for the side of an average house. The pile of roof sheets for each section is termed *yinaki lau*. The type of thatching desired, whether *ato tele* or *ato yinaki*, and the distance between each successive roof sheet is specified beforehand. 342 The owner of the house arranges with as many friends as necessary, each 476 to assume responsibility for preparing the roof sheets and sennit, and for thatching one section of the house. Each man may elect to do all the work 431 himself or he may call in a group of friends to help him with his section. The work is paid for by a food division, one share being set aside for each section that has been contracted out. This share is redivided among the helpers in each section. The amount of food constituting a share depends

342 on the owner's generosity, but no man who expects to call on friends again
can afford to be stingy in his food division. The amount of food in each
476 share is slightly increased for the more laborious types of roof thatching.

431 The same method of contracting is used today in building the slat walls
for a modern house. The space between the uprights is divided into sections
(here called *maleva*), and one food share is set aside for those who complete
a section (*puipui na maleva*). The food division at which the shares are
handed out to the workers is termed *ngaluenga*. That this division may be
made immediately the work is completed, the more farsighted arrange for it
ahead of time by placing a tapu on their talo and nuts, and by fattening
pigs. Others, not so far-seeing, wait until the work is completed before beginning
to gather food, and the workers may have to wait patiently for some
time before the payment is made. Informants seemed to think that a two-year
wait would be the limit. If the owner showed no signs by this time
626 of preparing his food division, it would be legitimate for the workers to
make pointed comments about his stinginess. In any case, no man who was
538 at all proud of his reputation in the community could afford to wait as long
as two years.

There is no specialization in Pukapukan house building, and not the
342 slightest suggestion of any guild organization. It is for this reason, perhaps,
331 that an average-sized dwelling house takes from seven months to a year
to build. The actual labor involved is not great, but the owners must frequently
put aside work on the new house in order to engage in other activities.
Delay is also caused by the necessity of laying in reserve food supplies
to pay the workers in the next stage of construction. It is possible that
412 the time taken to build a house today with iron tools (as also a canoe), is
342 conditioned by the carry-over of temporal patterns from an earlier time
654 when work was done with shell adzes and must of necessity have proceeded
slowly. Also a work in hand gives a man a feeling that his time is valuable,
461 and increases his importance in the community as one who has undertaken
a work of magnitude and who is theoretically busy at this work when others
may be idle.

There is no record in Pukapuka of any rites, tapus, chastities, prayers to
342 the gods, or other ceremonies connected with house building. The completion
of a new god house was marked by a feast, but there was no consecration
of the house before it was used.

CANOE BUILDING

322 There is no name for the expert canoe builder other than the general
463 descriptive terms, *tangata mawutu* or *tangata tau uwira*, applied to any
expert craftsman. Expertness in canoe building is associated with families
of canoe builders by whom most of the canoes on the island are made.

322 Formerly wood was too precious for any man to risk failure and wastage of wood by building a canoe himself; and today, when most men consider themselves fairly skilled with the iron adz blade, the tendency is for the layman to make for himself only a rough dugout, retaining the services of the expert for his plank canoe. The following men are considered the expert canoe builders on the island today: in Ngake village, Tiele, Iti, Iliilia, Te Ingoa, Tualai, Veti; in Loto village, Pau and Nawani; in Yato, Tuli. The men of the Ngake group are all related. Iliilia and Tualai began as helpers (*kau weinga*) to Pau and Te Ingoa. They have since set themselves up as independent experts. Iti has just finished his first plank canoe which is generally conceded to be of the first quality. Hence Iti will soon be given his first commission, probably by a relative. Nawani is now too old to build canoes himself, but gives advice when required and is generally considered to have passed into the class of consulting experts. Tuli is the only man of his [501] family group who is an expert. The largest canoe on the island (60 feet long, 13 seats) was built by Te Ingoa, believed by some to be the cleverest builder on the atoll today.

In general, a craftsman draws his assistants from his sons, brothers, or relatives, who serve voluntarily and are taught by the master all the skills of the craft, thus keeping the knowledge within the same family group. The assistants begin by sharpening the edges of the adzes as these are blunted and handed to them by the experts. They are given small jobs such as roughing out the shape of the stern piece, or making the preliminary adzing of the hull interior. Later they graduate to the more difficult finishing and fitting jobs where much skill is required to avoid bungling and wastage. In order to become a master, an apprentice must make himself a plank canoe. People come to watch his work, closely examine it from stage to stage, and entrust their own work to the would-be master craftsman only if the completed canoe passes a final criticism.

322 313 The chief craftsman directs all his assistants and is solely responsible for the completed canoe. He selects from the bush the principal tree for the hull and the other trees necessary for hull and superstructure. The felling and rough trimming of these trees is done in the bush. Bark is removed and sections of trunk with short grain are set aside for the canoe hull, sections with longer grain for superstructure. Formerly the hull was roughly shaped in the bush by firing and adzing. Today this is done by adzing only and the hull is carried or hauled to the shady place near the beach 322 which has been set aside as a workshop. The place Matatoki on Loto beach was a well-known canoe-building yard in former days. Each expert has his own favorite workyard (*tonga vaka*) where canoe timbers may be slowly seasoned in the shade before use. Today the owner has his canoe built near his own house that he may more directly oversee the workmen's

322 labors. If this place is not shady, the owner erects a shade of coconut mats
285 (*takapau*) on poles to protect workers and canoe timbers. Caulking material, lashing sennit, and canoe timbers are provided by the owner. The expert provides his own implements. (For the food financing and payment for the completed canoe, see p. 92).

322 Expert carpenters value their good name as quick workers and rarely
554 dawdle over a job, because this would lay them open to criticism and would
461 militate against further building contracts. As long as the expert and his assistants work conscientiously they are well fed. There are no songs or sayings about lazy carpenters, but a quick and skillful expert will be sure to have his name praised in a chant. Informants suggested that about one moon of continuous work with shell adzes was formerly required to finish an average-sized canoe.

322 Some experts possess a trade mark (*wakamailongo*) which they carve
531 roughly on the front of the bow piece of canoes they build. Such a mark is the head of a fish, the beak of a bird, or some other part of an animal. Tualai puts a sign of two crossed hands on the wave guard (*malae puka*) of each canoe he builds.

552 Canoes may be named by their owners. An appropriate canoe name is *Te Mango* (Shark) or *Te Punga-o-Witi* (Coral-rock-of-Fiji). This name is mentioned to the people who attend the canoe-finishing feast (*imu kai wakamalienga*) and the canoe is henceforth known and referred to by this name. Today some men roughly carve or paint the name on the bow of the canoe.

CANOE CREW

502 The canoe crew is known collectively as *waoa vaka*. Specialized names
493 for crew members of the flying-fish canoes have already been mentioned (p. 58). In general, the captain of the canoe crew is termed *tau muli vaka*. He is the steersman and leader of the crew. Formerly, especially for long distance voyages, he was usually a priest (*wata*). If he did not have priestly powers, one of his crew, who was a priest, consulted the gods in times of need.

502 The second member (*wuliwuli*) of the crew (moving from stern to bow) who sits on the aft cross boom (*kaukau ki muli*) is second in command and corresponds to mate. Should the captain die on a long voyage, he automatically takes command of the canoe. If the captain lays down his steering paddle to fish or rest, the *wuliwuli* takes up the steering. He helps to steer in strong seas or a high wind, and uses his paddle as a make-shift leeboard when the canoe is sailing by the wind. He further tends the main sheet ([illegible]) when the sail is up, watching wind pressure and direction.

The group of paddlers amidships are termed collectively *tatani*. They are

502 charged with paddling the canoe and keeping it clear of water. In small canoes the man directly amidships is the bailer and is termed *tata yua*. The bowman is known as *kauyu*. He is responsible for keeping a good lookout ahead, an especially important duty in shoal waters when he cons the canoe through the lagoon channels by directing the steering of the captain. He sits on the forward outrigger boom (*kaukau ki mua*) to keep the float down when the canoe is heeling over to a fresh wind. He alters the angle of the mast as required by the strength of the wind and uses his paddle as a leeboard if necessary. When it is necessary to turn the canoe quickly, he paddles at right angles to the canoe and thus helps the steersman. He is usually a strong, lively man as is demanded by his position.

322 782 562 788 793 Formerly tapus existed against the presence of women in canoes (p. 309) and against desecrating a canoe by capsizing it. When work began on a new voyaging canoe and again when the work was completed, a priest commended the canoe to the protection of the gods of the owner's paternal descent group. No details are remembered of these ceremonies, but they appear to have rendered the canoe in some measure tapu. Before starting a canoe voyage, the priest went to the worshiping place again to recommend the canoe to the protection of the god. No record is preserved of the type of god consultation carried out at sea, but informants suggested it was similar to consultations in the god house of the religious structure. The canoe priest probably took with him on the journey a stick or stone representative of his god to which a malo or coconut leaf could be tied when the priest communicated with the god. This would render the canoe still more sacred because in a sense the spirit of the god was considered as traveling with the priest on the canoe. To capsize a canoe by carelessness, lack of skill, or general bad temper was to treat the sacred canoe with less than proper consideration; it made the canoe *lepu* (violated the sanctity of a god), and the god was quick to punish this slight.

CARE OF CANOE

504 When canoes return from a fishing trip or other expedition, they are carried up the beach well above high-water mark and the hull, bow to the sea, is rested on chocks (*longo*). Sections of pandanus logs are split into halves longitudinally. The flat side rests on the ground. A notch is cut in the rounded upper surface of the chock and the hull of the canoe rested in this notch. Dry butt ends of coconut midribs and dry half coconut husks are also used as canoe chocks. Stern and bow pieces may be further supported by dry coconut midribs, the broad end of the butt with its natural notch serving to support the canoe piece. Small canoes and dugouts are sometimes turned hull up before resting outrigger booms on chocks.

504 285 Canoes are bailed dry and excess moisture is wiped out with wringers of coconut fiber. They are covered with old coconut-leaf mats (*pola*), unplaited dry coconut leaves, and pieces of pandanus matting. This canoe covering is termed *haukau lama* or *tapola*. Coconut-leaf butts and lengths of timber are leaned against the covering to prevent its blowing away in the wind.

Formerly canoes were never anchored with a cable to prevent them from drifting. A stick, called *iki lowia*, was driven into the sand of the resting place of the canoe just forward of the stern cross boom on the port side of the canoe between the hull and the longitudinal spar. This served to anchor the canoe securely because the top end of the stick projected well above the cross boom.

CULTIVATION AND HARVESTING

262 824 241 The vegetable foods of the Pukapukans are limited to coconuts, talo, *pulaka*, bananas, and pandanus. Today a few papayas and limes grow on Motu Kotawa. Coconuts and talo were and are the staple vegetable foods; the coconut is immeasurably the more important. All parts of the coconut tree were used for food as well as clothing and sennit; its value led the people to study every phase in growth of fruit and tree. Any Pukapukan can distinguish stages in the growth of the nut by a glance at a tree, however high; and he will climb only that tree which has on it the particular fruit for his purpose.

COCONUT

245 539 The origin of the coconut is told in the following Pukapukan version of a widespread Polynesian myth.

171 773 Huniudi and Maniapopo were a Pukapukan man and wife. Maniapopo conceived a child by her husband and, as is the habit of women at this time and in this condition, she longed for special and strange foods to eat. She had tasted everything that her husband could bring her, but still she longed for other foods. Her husband fished and fished and brought her home his catch, but she refused to eat it, saying, "This fish smells rotten to me. Take it away. I do not like it. Go fishing again and bring me some other fish." So he went fishing again, and this time brought home some sweet fish, fat and delicious. But again his wife refused to eat, saying, "This fish is too sickly sweet. I don't like it." This went on for many days, the husband procuring all kinds of new fish, the wife refusing them all, until he was worn out with his toil, while his wife pined away for food. At last he said to her, "Tell me what kind of fish it is that you long for, and then I will try to bring it to you." She replied, "There is one fish only that I desire and that is a piece of the *tuna* eel."

The man got his bait and hooks and went to the hole of the *tuna*. He baited his hook and threw it into the hole, but the *tuna* would not bite. He tried many kinds of bait fish in turn but with no luck. At last in despair he tried a bait of flowers and leaves, but still the *tuna* would not bite his hook. In the end, when he was about to give up altogether, he thought of his wife sitting at home waiting for him and decided to make one more try. For this last effort he baited his hook with the strong-perfumed

245 flower of the *welau* tree. As he baited his hook and dropped the line into the hole he made this chant: "Mauiculi, Mauiepopo, ta te matau, e matau lave" [Mauiculi, Mauiepopo, (we) prepare the hook, the fast-gripping hook]. The *tuna* took the bait and was soon fast fixed to the hook. The man hauled the fish from the hole, and when he was about to club it to death the fish spoke, saying, "Hear my words before you kill me. When I am dead, cut off my head. Let your wife eat my body, but my head you must plant in the ground in front of your house." The man listened well to the words of the *tuna*. Then he killed the fish, cut off its head, and planted it in front of his house. The body he wrapped in leaves, cooked in the oven, and took to his wife. She saw the eel and said, "Here you are at last with just the kind of fish I have been longing for." With these words she ate the fish and was satisfied.
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After a time the head grew up into a tree which later bore nuts, one nut on the topmost stem, two nuts on the second stem, three nuts on the third stem, and so on up to ten nuts on the tenth stem. Then later it had twenty stems and on the twentieth were twenty nuts. Finally the tree bore a heavy crop of nuts. As the earliest nuts ripened and became hard, they dropped from the tree to the ground. Mauiculi collected all the nuts. Then he had the idea of giving nuts to all the islands in the Pacific. He divided the nuts into two parts; one part for the islands of the western Pacific, the other part for the islands of the eastern Pacific. Then he took one nut at a time from the western pile and threw it into the air. As he threw he called out the name of an island and there the nut landed. When the western pile was finished he started on the eastern pile, throwing a nut into the air as before for each island in the eastern Pacific. In this way all the islands of the Pacific received the coconut. After he had used all the nuts from the tree, he thought, "In this division I have forgotten all about Pukapuka, which is neither east nor west. Te Ulu-o-te-watu has received no nuts from this division." He looked around on the ground and found one very small, dry nut. He held up this nut and said, "This shall be the nut for Pukapuka." Thus in the end all the islands shared in the nuts from the tree that grew from the head of the *tuna* fished by Mauiculi.

After telling this story, informants added that the first nut was planted
829 in the reserve of Uta. It is a characteristic Pukapukan touch to say that Pukapuka received only a wizened nut after almost being left out of the
186 division altogether. In the story of Lata, when Lata divided the huge *Tri-*
622 *dacna* shellfish (*payua*), he forgot Pukapuka in the division and was able to give the island only the rock to which the *payua* was growing. Similarly Pukapuka was the last Polynesian island to receive Christianity and among the last islands to receive a visit from anthropologists!

245 Coconut trees are empirically divided into 17 classes in terms of the
242 bearing qualities of the tree and the shape or quality of the husk:

824 Niu lakina: produces nuts that are small but abundant; it sometimes ceases bearing for a long time but usually bears again after this pause.
Niu wuta: bears well and continuously but not abundantly.
137 Niu tauiti: does not bear well and is not often planted.
Niu koafia: bears well but the nuts show a tendency to fall from the tree before they are mature.
Niu wuakole: a non-bearing tree with male flowers.
Niu malie: bears well and has good eating nuts.
Niu mangaeo: bears the sweet eating coconut with edible husk.
Niu lalilili: bears very small nuts.
Niu lanumai: very large nuts.
Niu kawa loloa: nuts with long husks.

245 Niu kawa nunui: nuts with coarse thick husks.
Niu kawa lapalapa: nuts with thin husks.
242 Niu kawa pukupuku: nuts with round husks.
Niu kawa liliki: nuts that are small and have small husks.
Niu kawa pipiki: nuts of which the husks are tough and hard to remove.
824 Niu mawakiwaki: nuts that are enclosed in a soft husk easily removed.
Niu pulu vemu: the best nuts for making sennit.

[137] Coconut trees are also classified in terms of the color of the nut. Six types are recognized:

Niu uyi: dark green.
Niu kawa kenakena: pale green.
Niu kawa melomelo: brownish red.
Niu melo: deep brown, almost red.
Niu melo toto: almost blood-red.
Niu kawa uyiuyi: midway between dark and pale green.

Most nuts are self-planted, but when a man wishes to plant one for himself he makes his selection of planting nut in terms of the above empirical classes. Similarly when a boy is sent to gather nuts, the stage of the nut is mentioned or the purpose for which it is desired; and the boy is told to get it from one of the above types of trees. A man is familiar with all the trees that he controls and with most of the trees on the land sections (*kawa*) of his paternal lineage; by giving specific directions to the nut-gatherer, he can always be sure that he receives the nut best suited to the purpose in hand.

245 782 Nuts planted by hand should be planted at the new moon; as the moon grows bigger, so will the tree grow larger and never cease to bear. Trees from nuts planted at the time of the full moon will at first bear well, but in successive bearings the number of nuts will be fewer and fewer, until the tree ceases to bear. Informants say that the young people do not pay attention to this planting rule today; hence the fertility of the coconut trees on the island is slowly waning. Formerly when nuts were planted a simple prayer was said to the god Tamayei, that he make the tree grow well. At the time of the *laukava* food division of the chief, gifts were made to Tamayei to thank him for his assistance in producing fertile trees.

245 A tree that does not grow well is *niu tau makulu*. Only certain trees bear the sweet-husked nut (*niu mangalo*); the majority bear a nut with a bitter husk (*niu kava*). Though he can give no reason for this difference, every man knows which of his trees is a *niu mangalo*. As there are no obvious distinguishing features about the tree or the nut, save that of taste, ability to distinguish a *mangalo* tree is based on experience over a number of years. It is not uncommon to allow coconut trees to grow from nuts planted near the cook houses. These grow into small trees and provide a ready supply of leaves and leaflets for use in making platters, baskets, mats, and mosquito switches.

1: Beaglehole and Beaglehole B-5 (1934-5) 1938
Pukapukans

245 The names for the parts of a coconut tree (niu) are:

192
Pu niu: trunk.
[illegible]: leaf and leaflets.
[illegible]: leaf midrib.
[illegible]: leaflet midrib.
[illegible]: midrib butt.
[illegible]: fibers from leaf midrib.
[illegible]: fibrous stipule.

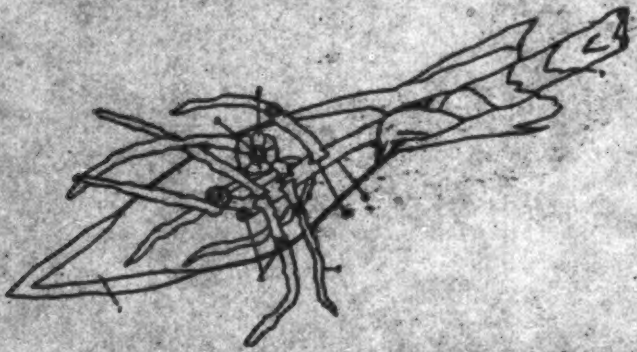

Figure 5.—Flower stalk and sheath of coconut tree: 1, flower sheath, [illegible]; 2, base of bract, [illegible]; 3, floral bracts, [illegible]; 4, flower stalk, [illegible]; 5, base of flower stalk, *pu o te [illegible]*; 6, flower stem, [illegible]; 7, base of stem, *pu o te [illegible]*.

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Names for spathe and flower stalks are given in figure 5. Informants had no ideas about the reproduction of the coconut nor could they give any names for the sexes of the flowers.

Stages in Growth

Five stages are named in the growth of the tree from the seed nut to the small tree:

[illegible]: the nut sends its roots (*[illegible]*) into the ground, and stem and leaves grow upward.
[illegible]: young stem tissues ([illegible]) have shot upward to a height of about 6 inches.
Uto: sprouts have grown to a height of about 2.5 feet, and the absorbing organ of the coconut cotyledon (uto) has filled the entire cavity of the nut.
[illegible]: the tree has taken firm root in the ground and the leaves have attained a height of 4 to 5 feet.
[illegible]: the leaves are growing vigorously and the young coconut tree is well established.

The 15 named stages in the growth of the fruit are:

[illegible]: the fertilized female flower of the coconut has developed into a flower bud.
[illegible]: the immature nut, an inch or more in length. If the [illegible] falls from the tree, it is used in the game of juggling ([illegible]).

// Beaglehole & Beaglehole E-5 (1934-5) 1938 Pukapukans

245 [illegible]: the nut is a little larger than [illegible] and has a dark green husk.

824 [illegible]: the immature nut has grown still larger but is still not used as food. Children use nuts at this stage as crude dolls.

192 Mato [illegible]: the husk is well formed; the cavity is filled with a clear fluid which is bitter and undrinkable; no flesh has yet formed. If the husk is flicked with the fingers it gives off a hollow resonance.

162 Mukomuko: a thin, slimy, easily detachable flesh begins to form over the inner surface of the nut. The mukomuko flesh forms inside the mesocarp at the point of attachment of stalk to nut. When the green outer husk is stripped off, the edible husk is exposed—a white, mealy substance around the outside of the eyes. Mukomuko from certain trees (niu [illegible], niu [illegible], and niu [illegible]) is sweeter and more desirable than others. The fluid from the advanced mukomuko nut may be drunk but is more often added to talo puddings.

Niu [illegible]: the shell is harder, the flesh thicker though still slimy. The liquid ceases to be bitter and may be drunk.

Niu [illegible] mukomuko: the drinking nut in its earlier stage. The liquid is not so sweet as in the next stage. The flesh is soft and thick and is eaten after the liquid is drunk. The husk is dry and unfit for food.

Niu [illegible]: drinking nut at its best stage. The liquid is sweet ([illegible]) and the flesh tasty ([illegible]). When this nut is shaken, the liquid inside can not be heard.

Niu [illegible] [illegible]: the nut a little past its best drinking stage. The flesh has become hard, especially about the base of the nut; but the liquid is plentiful and sweet.

Niu [illegible]: the flesh is thick and hard; there is less fluid. The husk is darker than the niu [illegible], and the liquid rattles inside the shell when shaken. It is not particularly desired as food, but the liquid is drunk and the flesh eaten if the nut is husked. A nut at this stage is normally allowed to develop into a yakali nut. The flesh is specially used now as pig food.

Niu ali: the husk turns brown; the liquid becomes slightly bitter and the flesh hard. The embryo develops.

[256] Niu [illegible] (modern name, yakali): The flesh (ipipi) is mature, thick, and hard. Liquid is bitter and unfit to drink. The embryo has developed into an absorbing organ. This is the stage used in copra making. The ipipi flesh is eaten with fish or other foods in the absence of talo; from it coconut cream (lolo) is made.

Uto: the yakali nut left on the ground to germinate becomes filled with the spongy absorbing organ (uto). The liquid is absorbed and the flesh (ipipi) is very thin or entirely absorbed. Leaves, stem, and roots develop. The uto is an important everyday food.

[illegible]: stored yakali nuts. The embryo is undeveloped; the flesh thick, hard, and sweet; there is no fluid. After 6 months' storage, when the nut is dry but the flesh still fairly soft, the nuts are said to be [illegible]. After a year the flesh changes its color from white to yellow-brown and the nut is described as [illegible] (coloring). After 3 years the flesh is brown or red and the nut is described as [illegible] (red-brown). The flesh is eaten by itself or as a food complement ([illegible]) to pandanus fruit or edible [illegible]. It is also used in the preparation of coconut oil.

257 [illegible] nuts are stored on the high platform of a storage house (wale [illegible]) in one of two ways:

In the first method the yakali nuts may be left unhusked ([illegible]) so that rats can not bite through the husk to the flesh within. The drying process hardens and strengthens the husk fibers which are later soaked in salt water and used to make sennit. By the second storage method the yakali nuts are husked and a piece of *sponge* coral of appropriate size is driven into each eye of the nut, effectively closing the eyes so that rats cannot gnaw through the shell. Nuts are stored for five years or more

251 according to the quality of *takatake* desired. An excellent food reserve against hard times, households formerly had one of several houses stored exclusively with *takatake* nuts.

245 The various parts of the coconut are named as follows:

192
Mata: eyes of the nut.
Mulimuli: base of nut opposite eyes.
Pulu: husk.
Pulu kawa: husk fibers.
Kiko: endosperm when soft.
Ipiipi: endosperm when hard.
Ngaipu, plural **na ngaipu**: endocarp (shell).
Uto: absorbing organ.
Yua: coconut liquid.
Kanava: fatty deposit on surface of flesh of yakali nut.
Tuatua: brown sheath separating flesh from shell in yakali nut.
Uto wai kawa: unhusked nut at uto stage.
Uto: husked nut at uto stage.
Kili uto: sheath between hard endosperm and absorbing organ.
Mata uto: sprouting stem, radicle and roots together.

Harvesting

245 181 The three articles used in harvesting and husking coconuts—climbing bandage, husking stick, and carrying pole—are all described elsewhere (pp. 123, 146).

In coconut-tree climbing, the right arm is passed around the trunk of the tree and holds the body close to the trunk. The flexed left arm grips the near surface of the trunk and is used to lever the body as the climber progresses up the tree with a series of short springs. Alternatively, both arms are passed around the trunk of the tree, but the former method is preferred where speed is desired.

245 857 Throwing nuts down from the tree is termed *maka te niu ki lalo, tatoli te niu ki lalo*, or *takavili te niu*. Nuts are usually harvested by young boys, occasionally by girls. The nut is grasped with the hand from below and twisted off the stem. As the nut is released, the hand is given a rotary twist (*lui*) so that the nut spins around as it falls and drops in a vertical line. It hits the ground on the base of the nut and does not split open with the impact. The spin also prevents the nut from rolling when it hits the ground and so becoming lost in the undergrowth.

245 554 Whenever a special gift of nuts is to be made, the nuts are lowered in a cluster from the tree, so that none will be bruised. They are given to the recipient unhusked. Besides receiving a gift with this special mark of status, the recipient receives also the edible husk of the nut.

240 From 20 to 40 nuts are usually harvested at one time. The husking stick (*koyo*) is next set up.

245 In husking (*yoka*), a nut is brought down on the point of the stick so that the line of penetration is through one of the three longitudinal ridges (*pawnga*) in a horizontal plane. A longitudinal section of husk is removed by levering the nut outward and downward from the stick, and the process of impaling and levering is continued until all the husk is removed. When it is desired to preserve the edible husk (*mukomuko*) much care is taken and the husk is torn off (*yaekili*) gently rather than levered off in large sections.

[482] Drinking nuts are husked completely smooth (*yoka molemole*) or so as to leave a longitudinal strip of husk attached to each nut (*yoka ma te hayuni*). A thin length of fiber is raised from this strip. Pairs of nuts are tied together (*hayuni*) by these fibers, making it possible to throw them over a rough carrying pole (*amonga*) of coconut midrib and thus conveniently carry (*amo*) them from the bush to the home.

245 A heap of *yakali* nuts gathered together from the ground where they have fallen is termed *putunga* (pile), whether it is a large or a small heap. Reference to these piles is in terms of the number of nuts gathered, whether 100, 200, or more. Thus a man asks about a pile of nuts, "Na ai te lau nei?" (Whose hundred is this?).

264 The husked drinking nut is opened by piercing or by cracking:

The eye (*mata*), which is in the widest of the spaces between the three longitudinal ridges on the surface of the nut and which is filled with soft tissue through which the nut sprouts, is pierced (*tako*) with a coconut leaflet midrib or with the pointed end of the *halohalo* implement. To open the nut by cracking, it is held in the hand and the shell at the base (*mulimuli*) is cracked against a stone. When done by a skillful hand, the base of the nut cracks evenly all around and is lifted with the fingers without loss of the liquid. Today nuts are more often cracked by three sharp blows with a knife blade on the base. After the liquid is drunk, the nut is broken open (*wowo*) by knocking it against a stone. The soft flesh is scooped out with the thumb and fingers; harder flesh that does not yield readily to the pressure of the thumb is scraped out (*wakamataka*) with a scraper (*halohalo*).

TALO

244 The following named varieties of talo are indigenous to Pukapuka:
137 *mowalowola, wakawota, wakena, kele, pongi* (slow-growing species), *peleua, talaki, kaleloa, newanewa* (slow-growing species), *kula, kiekie, uli, koyikoyi.*
177 All are grown on Pukapuka today save *talo koyikoyi* which was practically all destroyed by the tidal wave of 1914. Introduced varieties are named after the land of importation; as talo Tawiti (Tahiti), talo Polapola (Borabora), talo Niue, and so on.

244 The origin of talo and *pulaka* in the world is recounted in the story of
773 Maui (1). Some informants incline to the belief that only one variety of talo was introduced by the gods in the first place and that all other varieties sprang from this one by some power of the gods—a rationalization perhaps of the fact that strains of talo are so mixed today that it is hard to grow
244 one true to type. This causes trouble on talo bed boundaries. One woman
423 plants one variety on her boundary, and her neighbor plants another variety on her side of the boundary, hoping thus to keep the boundary between the

244 two beds well demarcated. When the talo grows, however, the two varieties
423 are often so intermixed that the boundary is unclear. A single talo bed may be planted with one variety or with several varieties planted in sections running crosswise over the bed.

244 Any and all of the varieties are used indifferently in preparing the talo dishes. All are considered equally fertile. The only reason for planting
262 one variety rather than another is to get the benefit of the slight differences in taste and flavor between varieties.

244 Native terminology for talo and *pulaka* is:

192
Pulaka: the whole plant.
Talo: the whole plant.
Wawa: old name of the talo corm; wawa is used interchangeably today with talo for both plant and corm.
Kau a pulaka, kau a talo: the petiole.
Tingapala: the cutting, top section sliced off the mature corm with petioles and leaves.
Lau talo: talo leaf.
Lauuma: pulaka leaf.
Lito: delicate young leaves protruding from the base of the innermost talo leaf.
Pikopiko: the lateral cormlet or sucker produced at the side of the corm and bearing a crown of leaves.
Aka: root.
Wuluwulu: rootlets of the corm.
Palapala: swampy mud in which the plants are grown.
Ui talo, ui pulaka: bed or garden.
Wua: talo bed of a single man, woman, or child in communally owned talo land.

There is no elaborate garden magic in the planting and cultivation of talo. New moon planting was favored to produce plenty of talo with large and good-flavored corms. Full moon planting was also good, but after a few replantings the corms tended to grow smaller. Formerly a bed was stripped (*wuwusi*) and replanted at the new moon, but a few tubers were removed (*matauya*) from a field at any time.

The complete process of going to the garden, harvesting, planting, and bringing home talo is termed *tope wumu*.

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When a woman or girl goes to the talo bed, she takes with her a coconut-leaf basket (*kete launiu*); formerly also, a turtle-bone cutting implement (*toko*). She recognizes the mature (*hua*) corm by the yellowing and curling up of the leaves. She pulls out (*longa*) the talo plant and slices off (*tope*) the top section, tossing the corm to the embankment of the bed. She loosens the soil from which the plant was pulled, digging it up (*tahi*) with a stick (*koyo ui*). She slices most of the leaves from the petiole, usually leaving one leaf, and sets the cutting back in the ground. She tramps the soil around the slip to make it firm, planting in rows, not in hills. She throws the leaves stripped from the petioles back on the ground and tramps them into the soil. She repeats the process until she has sufficient tubers. When a whole bed is being stripped by two workers, one pulls the corm and throws it to the side; the other cuts the top section from the corm and throws it back to the harvester, who replants it. In former days after harvesting sufficient talo, the worker set aside from 4 to 10 corms for the gods of the garden, saying, "Matalolau e, Matalomua e, here is your share of talo to help increase the yield of my garden." Then the cuttings from these corms were

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244 replanted, and the corms themselves buried in the ground and left for the gods. The
482 workers place the corms in their baskets which they carry to the village balanced on their heads (*tuku ki lunga o te ulu*).

There is no rotation of talo with other plants nor any system for leaving
242 lands fallow between planting. At the time of greatest famine after the
931 seismic wave, cultivation was alternated between reserve land and private talo beds to ensure that each bed of talo was put to best use and that the corms were allowed to mature properly.

244 Cultivation further consists in weeding (*langai i te vayvaya ui*) and
413 fertilizing (*wakailepo* or *tilikao*) the talo beds:

> The gardens are weeded by women about once each month during the early stages
> 314 of growth. Weeds are tramped into the soil or allowed to rot on top. When six or seven leaves are fully unfurled, the beds are fertilized with *pukawa* leaves, *lau kotama* fern, grasses, coconut leaves, or any other vegetable matter. The fern leaves are cut off at the base of the plant and wrapped for transport in coconut-leaf mats (*polapola*). All the subsidiary branches are cut from the *pukawa* tree, and the leaves stripped by hand from each branch and placed in baskets. The branches are replanted or dried and used as firewood, canoe poles, etc. The vegetable matter is taken to the garden and spread over the ground around each talo plant. Some is tramped in, but the larger vegetable matter is allowed to rot on top. This is mainly women's work, but the men sometimes assist, especially in the cutting down of the *pukawa* branches. Normally there are about two crops of talo from each bed during each twelve-month period. This means fertilizing each year about two months after each planting.

244 In the old days a little dryland talo (*kape*) was cultivated. Killed by the
192 tidal wave, it has not been replanted.

At least eighteen stages in the growth of talo or *pulaka* are recognized:

Toki te tingapala: the cutting is planted.
Po lua, koa tupu te aka o te wawa: 2d day, the roots grow.
Po tolu, koa velo te lito: 3d day, the young leaves begin to protrude from the base of the innermost petiole.
Po lima, koa loa te lito o te lau: 5th day, the young leaves grow tall.
Po angahulu, koa velo te lito wou: 10th day, new petioles and leaves shoot up.
Taeyao atu, koa lau lua: the next day, there are two petioles and leaves.
Koa velo mai te tolu o te lito: (15th day) the third petiole and leaf start up.
Koa lau tolu: (20th day) there are now three petioles well grown.
Koa lau wa: (22d day) there are *four* petioles. This is the time to cultivate and fertilize the young talo.
Koa lau lima: (23d day) there are five petioles growing.
Koa wakalumagevali: (24th day) the leaves sway freely in the wind.
Koa tuaki te lau lima, koa uyi, koa tupu mai oki te lau kaua, koa ono lau talo, koa ola: (30th day) petioles spread and darken in color, the leaf grows large, there are six main leaves, the plant flourishes.
Koa utouto ki lunga: (35th day) the petioles grow high.
Koa ola loa ki lunga: (45th day) the petioles grow high indeed.
Koa tuku te ulu: (2d month) the head is left, the petioles and leaves stop growing, and the corm begins to grow.
Koa mutupa te wena: (3d month) the corm is two finger-joints long.
Oko ki te vavanga o te wawa: (4th and 5th months) the time when the corm grows rapidly.
Koa kivi, koa wowalo: (6th and 7th months) the corm is mature and large.

244 The sizes of the talo tubers are: *piki* (small corms), *vavenga* (slightly larger corms), *vaivai waiva* (still larger corms), *ulupoko* (very big corms), and *pumie* (enormous ones, as big as *puloka* corms and no longer good for eating).

A good commentary on the cultivation of talo is found in the first section of the chant, "Maka te kupu ki te tonanga", in praise of a woman's skill at talo growing (1).

DISTRIBUTION OF WEALTH

GIFTS

433 571 431 Much of the produce of labor is used for immediate consumption by the worker and his household. The talo harvested by the women of the household, the mats they plait, the fish and nuts produced by the men, the house that is built by a man, are all consumed by the household group. Some of the wealth of the household—whether food or more durable articles such as pearl-shell fishhooks and ornaments—is distributed through the gift exchange or as payment to workers who are producing other objects of value for the household. Another part of this wealth is distributed through the feasts that mark crises in the lives of the individual members of the group.

431 [574] Most gifts require a reciprocal gift of equivalent value. When members of one household have more than they can immediately consume they give staple articles such as food, fish, talo and nuts to relatives and friends, but only on the assumption that everyone in the community is following the same social principle and that the gift will be reciprocated at some later occasion when the recipients are well provided with food. One widow and her young children are frequently given gifts of food, fish especially, by relatives and neighbors without, I think, any feeling that the widow should or could reciprocate. The villagers are sorry for her plight and give out of pity and neighborly feelings. Gifts to transient visitors on the island are made freely and without thought of return; the tradition of hospitality requires the expression of friendship through the making of gifts. Gifts to more permanent visitors are made within terms of the implicit system of gift exchange, but insofar as the givers are many and the recipients are few, the return gift is not expected to equal the value of the first gift. The return gift in this case merely symbolizes the completion of the transaction, and honor is satisfied on both sides.

Various types of gifts are named according to the way they enter into the system of exchange:

431 195 The word *taongaloa* is applied to a family heirloom, a pearl-shell ornament for instance, an appropriate gift to a living person. *Taongaloa* is also a gift of remembrance when two friends part from each other. Such a gift is referred to metaphori-

431 cally as *muli taluma* "the rear (bottom) of the covered satchel", the implication being that the gift is one of the very precious articles which are always kept hidden in the [195] bottom of the *taluma* satchel. Such a gift demands in exchange another *taungaloa*. *Watanga* is a gift made to a dead friend or relative's body. The gift will be recompensed in part by a food division accompanying the mourning ceremonies, in part by an expected return from the family of the deceased when the giver himself dies. *Tapu* is the name for a gift of food or mats to the bride or groom at a wedding feast. It, too, is recompensed by a food division and by return gifts when there is a wedding in 431 the household of the giver. The same word, *tapu*, is applied to a gift to the gods, whether a gift of coconuts to the god Tamayei, a gift of talo to the gods Matalomea and 782 Mataloloa, or a gift of fish to a priest, ultimately to be given to a god. These gifts are made to procure the good will of the gods. A *wakatapu* is a gift made by one lover to another and carries with it the expectation of a return gift. The lovers' gifts thus symbolize a temporary or permanent relationship between the two persons who are attracted to each other (p. 290).

431 Gifts which are given at birth, wedding, or death celebrations imply a greater degree of compulsion than other gifts. They are termed generically, *mea* (things), and the cultural implication is that they are required of relatives no matter what the personal relations between giver and recipient may be. Other gifts are, culturally, supposed to be free gifts. Whether the gift is free or compulsory, the expectation of return varies only slightly in binding force; the ethical obligation is equally strong.

A return gift of lesser value than the first gift is termed *tali*; one of equal value to the first gift is *yoani*, and one of greater value, whether given through excessive generosity or to shame the first giver, is *yauyau nunui*. [576] To refuse to accept a gift is termed *pa tali*; such refusal is tantamount to an open declaration of ill-feeling between the two groups concerned. The generous man is *atawai*, the mean or stingy person, *kakionge*. There is no record of reciprocal gifts between paternal or maternal lineages at any personal ceremonials.

A marked temporal discontinuity in the gift exchange system occurs in the return of compulsory gifts. Death or marriage gifts may not be returned until an interval of many months or years has elapsed. The giving of the return awaits the occurrence of a life crisis in the household of the original giver, and until this crisis occurs, the debt remains unpaid. There is no such discontinuity in more personal gifts given in less formalized situations. Gifts between lovers or gifts of remembrance evoke immediate return gifts, so that the relation between the two parties to the exchange is defined once and for all at the earliest possible moment.

437 439 Owing to lack of contact with outside peoples, trade played no part in native Pukapukan economy. The village copra crops are disposed of today to traders for money, which is divided among all the men, women, and children of the village, to be disposed of according to individual choice.

PAYMENTS

437 Mention has been made of services which are paid for. A man who borrows a canoe gives fish in payment. A man who engages a medicine
431 man may make a return of food for his services. Distribution of food and
476 gifts accompany the building of a house or canoe:

574 When a man decides to have a canoe built and has assured himself of the necessary timber, he makes arrangements with his relatives to have a stocktaking of avail-
554 able food supplies. They then increase supplies deemed insufficient, by planting more talo, placing a prohibition over growing talo,[1] and by acquiring more pigs which are
[322] fattened by a diet of coconuts. When the food is sufficient and has all been mobilised, the work is started. Groups of relatives assume responsibility for providing food day by day for the carpenters, bunches of nuts in the early morning and staple foods in the afternoon. The prospective owner of the new canoe is obliged to provide liberal quantities of food in order to avoid the reputation of stinginess and meanness. When the canoe is finished, it is launched and taken fishing for one or two days. This fishing is termed *wakayinu te vaka* (oiling the canoe). The biggest fish caught is given to the head carpenter, the remainder, after gifts (*matanga*) have been made to the chiefs, goes to the feast (*wakamalienga*) for the canoe builders. A good catch of fish for the new canoe is called *wakayinunga mitala* (lucky oiling). At the final feast (*malinga*) for the workers and for those who have assisted in providing food to finance the construction, every endeavor is made to have a great display of food. At this time gifts, depending on the size of the canoe and the wealth and status of the owner, are given to the builders. Average gifts in former times for a large canoe were: for each assistant carpenter, one fishing line of uwo, one anchor line of sennit, one paddle, and one pearl-shell fishhook; for the chief carpenter, the same in addition to one sennit malo and one fishing rod, preferably a bonito rod, complete with four or five bonito hooks.

[342] The amount of food distributed to recompense workers building or thatching a house depends on the size of the house.

For one average-sized sleeping house, 1,600 nuts, 800 mama (talo puddings, each weighing about 8 ounces), and four pigs were provided; 100 nuts, 100 mama, and one pig were distributed among the staff that killed and cooked the pig and prepared the talo; of the remainder each man and woman received two *pona* (pieces of pork 5 × 4 × 2 inches); each man received seven mama, each woman five mama, each child one mama; each man and woman received 20 nuts, each child one nut. This feast, originally prepared for the workers, who were drawn from the hymn-singing group (*pupu imene*) of the village, was divided among the village as a whole because of the great quantities of food. The owner of the house acquired increased status through this inclusion; everywhere remarks were made about his generosity.

262 To celebrate the completion of the present London Missionary Society church, each
574 village in turn feasted the whole island. These feasts were the largest that are remembered within historic times on Pukapuka. Four talo puddings, each weighing about 5
431 pounds, were provided for each man and each woman; one pig for each man; 1,000 nuts for each man and each woman, with proportionately smaller amounts of all these
621 foods for each child. Even though quantities were given away to a trading schooner that happened to be visiting the island, large amounts of the food were left to rot, proof that the time was one of great feasting and abundance.

527 Feasts are held in each village at Christmas time, when in alternate years groups of men and of women visit and dance in the villages away from home. Each village is host to these groups of visiting dancers, and provides food

[1] [i.e., to prevent its being harvested--analyst.]

574 621 262 431 527 to distribute among them. The food prepared by Yato village for Christmas, 1934, is typical of the amounts distributed: 104 *ava* fish from its fish pond, 500 cooked talo tubers, 100 limes, and 37 papayas from Motu Kotawa, 210 drinking nuts and 20 bottles of coconut and salt-water sauce (*tai*). This was divided among about 100 visiting women.

FEASTS

431 574 264 527 The important part played by the food division in distributing wealth throughout the community may be best seen in a summary of the characteristic features and types of feasts. The Pukapukan feast (generic name, *inu kai*) does not connote an eating together by the parties to the feast. The essence of the feast is a food division. The food is collected and then divided among all concerned, often among the people who have themselves provided the food. It is then taken away and eaten by each household group in the privacy of its own cook house or near by. The Pukapukan *inu kai* is a mechanism whereby stimulus is provided for the extra production and distribution of food on socially set occasions, that all concerned may eat more abundantly than usual and by this eating symbolize a bond of relationship between two groups of people.

431 264 574 476 To honor another person, a man or woman sends chicken, nuts, and uncooked talo. The gift, also termed *inu kai*, is cooked and eaten in privacy. On an enlarged scale, the same mechanism prevails for feasts, save that the division of collected food operates to give back to each approximately the amount of food that he has contributed. The amount of food expected from each household is settled beforehand. Anyone who fails to contribute accordingly does not share in the division. In this way, it is assured that the contributions will be equal in amount and quality and that no one will be unfairly favored in the subsequent division. All contribute, share, and eat the same foods. For feasts to pay workers for their services, relatives are expected to contribute food. The person for whom the work is being done is expected to contribute in quantity or quality sufficient extra food to ensure that relatives do not suffer too severely in the division.

527 Named Pukapukan feasts are:

431 574 621 613 1. *Monotanga*, a big feast for the island. Occasioned in former days by the induction of a chief, today it marks the completion of some village or island enterprise, such as the building of church or meeting house. The feast might be provided by all three villages at one time or by each village in turn for the other two villages. At a chiefly induction, arrangements were handled by the sub-chiefs and the group of elders (*tupele*), who decided the nature of the contributions (amount of food, size and variety of talo dishes, kind of fish, etc.) to be made by each village. For such an occasion as this, the paternal lineage of the chief might provide the monotanga for the rest of the island, if the lineage were wealthy in food supplies and wished to make a grand gesture indicative of its wealth. A well-remembered monotanga feast occurred in 1916; the talo harvest

431 574 on Motu Ko was so large that Ngake village made a present of 2,000 talo tubers to each canoe from the other two villages that went across to Ko to get the food. This was an act of generosity, marking no set occasion.

621 527 262 2. *Lavaya*, a village feast held today on the completion of some village activity. It formerly occurred on the rising of the Pleiades to celebrate the beginning of the season of plenty. It was timed to coincide with the lifting of the prohibition (*lasi*) on village food reserves. The communal gathering of food for such a feast is also called *lavaya*, as *lavaya kaua* (crabs), *lavaya manu* (birds). A *lavaya* after a tapu period ensures that after the period of privation the special foods will be shared among all the villagers. If talo, nuts, and fish are plentiful when the tapu is raised, the *lavaya* feasting may last for one or two moons. After a preliminary survey of the food resources, the village men decide how many divisions there are to be in each moon and how many moons the food is likely to last. [821] Starting with the first night of the new moon, divisions may be made every 10 days, the last one to coincide with a new moon, either in the first or second month after the commencement of the feasting. This emphasis on the moon as a governing factor in the *lavaya* feast links with the custom of replanting talo and other food plants on the days of the new moon to ensure good growth.

3. *Ngalunga*, the feast which is held for a village guard at the end of its service in the reserve land or to pay the workers thatching a new house (pp. 36, 76).

4. *Wakamalinga*, the feast provided by the owner of a new canoe or of a new sleep house (not cook house) for the food contributors, the workers, and the principal people of the island. It is a bigger and more elaborate food division than the *ngalunga*, though not elaborate enough to be classed as a *momotanga*.

5. *Kavehaa*, a feast celebrating the end of a fishing contest (*makono*) or other [623] inter-village contest. The food is provided by the whole island. Formerly the old men's group and the sub-chiefs decided on the contribution to be levied from each household. Today this levy is fixed by an informal meeting of village representatives.

Other feasts discussed in their special context are:

Wawle, *tamaganga*, and *puaki*, food divisions for the birth of children; *mahimae*, food divisions on the occasion of an important marriage; *puyia wale* and *lulubanga*, feasts at death ceremonies; *laukave*, food divisions held at the command of the chief to mark his induction, the birth of an heir, or a death.

431 *Ina kai o te uwa* is a food division among members of the maternal lineage held on no set occasion, but whenever there is abundant growth of talo in the gardens controlled by the lineage.

574 527 Special names are given to the feasts of the paternal lineages:

262 613 *Lounatangi* (animal intestines), feasts of the two Ngake paternal lineages; *malolo alai* (flying fish on the reef), feasts of the Yato lineages; *lingalinga* (land shells), feasts of the Loto lineages. These three names refer to the fishing set-up of the three villages. Ngake and Yato are the rich fishing villages with plentiful supplies of fish for their feasts; Loto is poor in fish supplies and the reference to land shells is indicative of the small amount of flesh food that this village could supply its guests. For these feasts, the reserve lands of the villages are opened by special arrangement, and special delicacies are expected—birds from Kotawa, turtle from Ko, and extra supplies of nuts from Uta. A paternal lineage gave a feast of this type at the conclusion of some special work—the building or rethatching of its god house, clearing the ground around its religious structure, clearing up its cemetery, building a new *yianga* (religious avenue). When other paternal lineages learned that one group proposed to hold a feast, they all joined in sending courtesy gifts of food.

The mechanism is: a Ngake lineage is giving a feast; each household of the Ngake group is levied so much prepared talo; each household makes this amount of talo food and extra talo puddings for friendly households in the other villages which have inti-

431 mated privately that they will make a food contribution. The levied amount is sent to
the main food collection along with the food received from the friendly households;
574 when the food division is made, each friendly household receives in return from its
Ngake friends the amount that it contributed, but the return gift is taken from reserve
527 stocks that the Ngake household has made, over and above its levied contribution. A
little extra food may be taken from the share of the Ngake household and added to the
262 return gift so that families from other villages may receive the precise amount of food
that they contributed plus a little more from the main division. The reciprocity is com-
613 plete, but the addition to the return gift, a bit of fish or a few nuts, creates the cultural
fiction that the host lineage has fulfilled required patterns of generosity. The food
[572] exchange has helped seal bonds of friendship between two households, without seriously
impoverishing the hosts.

Official food dividers (*tangata tau popoa*) function for the big feasts:

Formerly, the group of elders (*tupele*) chose its own food dividers for the fish
[463] brought to it by the men's fishing groups. The chiefs had their own dividers for
[illegible] feasts, as did the paternal lineages and villages for their feasts. The food dividers were skilled men. Their position was not hereditary; if they were careless or cheated, they were summarily dismissed. With the exception of the dividers for the old men, who received certain pickings but who might not share in other foods reserved solely for the chief, the food dividers were supposed to share equally with the people for whom the division was made, though in fact they might secretly reserve for themselves as their own share better portions of fish or slightly larger talo puddings.

When the [illegible] group of fishermen (p. 281) returned each day from fishing, the canoes were met by the two food dividers for the old men, who carried the fish from the canoes to the dividing place. When neither of the food dividers was able to carry a big fish to the meeting place (*[illegible]*), the old men called for volunteers, and the man who could carry the fish was given the privilege of dividing it.

FOOD PREPARATION

262 The staple foods of Pukapuka are fish, coconuts, and talo. Fish and
252 coconuts are eaten every day, talo less often; but talo is important as a
quality food which gives variety to an otherwise monotonous diet. Most talo dishes consist basically of a mixture of talo and coconut cream (*lolo*). Two standardized methods of wrapping food in bundles preparatory to baking are used only for talo dishes (fig. 6). Each food eaten, whether fish, talo, or coconut has a definite food complement (*kinaki*) which is eaten with it to make a complete meal.

The two methods of cooking food are oven baking (*tao*) and grilling (*tunu*) on hot stones or embers. Grilling is the preferred method for cooking fish.

FIRE

372 Fire (*[illegible]*) was formerly produced with the fire plough. The method was demonstrated to me. The hearth stick of *puapua* wood is called *lakau [illegible]*. The rubbing stick, also of *puapua* wood, is *kaunati*. The hearth groove is *[illegible]*. To rub the stick on the hearth is *ikaika*, and to make fire that is *[illegible]*.

1: Beaglehole & Beaglehole E-5 (1934-5) 1938 Pukapukans

372 The operator procures a piece of *puapua* wood from which the bark has been removed. This wood is about 4 feet long and 1 inch in diameter and has numerous grooves on it from previous use. The operator splits the end of the stick and cuts off a section to use as a rubbing stick 9 inches long, ¾ inch thick at the proximal end (*mulimuli*), and about ½ inch thick at the distal end (*mata*). The distal end is shaped to a medial point by a transverse cut with a knife. A few slices of wood are also taken off the hearth stick to form a flat surface to rub on. The point of a knife, formerly a sharp pointed shell, is pressed into the distal end of this flat surface to form a hole which serves as a blockage point for the farthest distal movement of the rubbing stick. An assistant crouching over the stick firmly holds the distal end of the hearth stick (*yoliyoli te lakau*) with foot and hand. The operator sits on the floor and locks one leg over the hearth. He holds the rubbing stick so that the crossed thumbs are placed beneath the stick; the flexed fingers of the right hand are placed over the stick and on them are laid the flexed fingers of the other hand. The grip is close to the distal end of the stick, 3½ inches from the point. He crouches over the stick, leaning the whole weight of his body on it while moving the stick to and fro at an angle of 45 degrees to the hearth. The groove is about 3 inches long. The operator rubs slowly at first, increasing the speed of the rubbing as the dust collects and begins to smoke. When the dust smoulders he cries, "Na tu" (It burns). The smouldering dust is carefully tipped onto a dry coconut husk and fanned or blown until the husk blazes. Some fire-makers prefer a very short rubbing stick and hold it close to the end so as to exert maximum pressure on the stick. An informant, holding his stick 3½ inches from the point, produced fire only on a second attempt.

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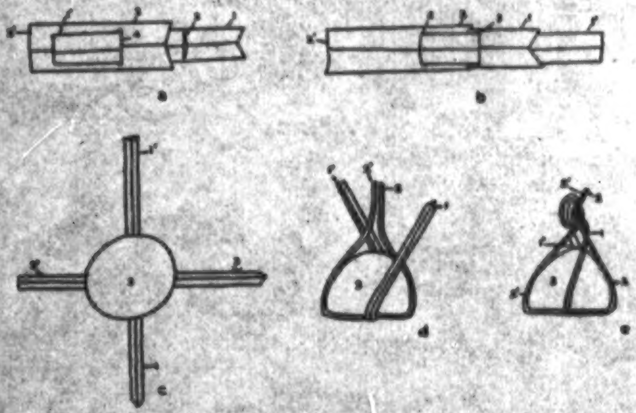

FIGURE 6.—Food packages: *a-b*, *lulu* food package; *c-e*, talo (*lolol*) food package. *a*, leaflet midribs stripped from butt ends of two coconut leaflets (1, 1' and 2, 2'), slits (3, 4) made with thumb nail in butt ends of the leaflets, tip end of leaflet (1') passed through slit (4) in leaflet (2); *b*, tip end of leaflet (1') folded back, passed through slit (3) in butt end of leaflet (1) and pulled tight, length of joined leaflet placed under food package, two ends make transverse turns around package and tie with overhand knots. *c*, two coconut leaflets (1, 1' and 2, 2') crossed and food package (3) placed on crossing; *d*, leaflet ends (2, 2') brought together and held with one hand; *e*, leaflet ends (1, 1') twisted around ends (2, 2'); then ends (2, 2') bent down over transverse turns, pushed up under transverse ends, and pulled tight.

1: Beaglehole & Beaglehole E-5 (1934-5) 1938 Pukapuka

372 The origin of fire is told in two stories:

773 In the very beginning of time, fire was procured for the Pukapukans by a man
539 named Mauikatoto, a medicine man who was visited by his god in a dream and instructed how to make fire with the hearth and rubbing stick.[*] Mauikatoto made fire according to the directions of his god. The *kaka* bird (ghost tern) was the assistant who held the far end of the hearth stick. When Mauikatoto had made fire, the tern flew up into the air and circled around him. Mauikatoto hit the tern over the eyes with the hot rubbing stick, making the black marks over the eyes which the *akiaki* bird (a white tern with a black semicircle around the upper part of each eye) carries to this day. A second version says that Mauikatoto's hands were covered with ashes, and as he grasped at the tern, the ashes marked the bird over the eyes. The following part of an old chant is quoted in support of this origin of fire:

Tutu ia I te awi na Mauikatoto,	Flamed the fire (made) by Mauikatoto,
E yolia e te kakavai,	Hearth holder the *kaka* bird,
Naku kotia te vaimata o te akiaki.	I striped the outer corners of the eye of the *akiaki* bird.

The seismic wave of about 300 years ago was so disastrous that all fire was extinguished. Another legend tells how fire was brought back to Pukapuka after this catastrophe:

The god, Ngaliyeyeu, brought fire to the priest, Te Ule. There was no fire in this land. Ngaliyeyeu brought it to Te Ule. Then fire was known. At that time there were no fires belonging to the priests of the gods. Earlier they had lit their fires at the fire of Te Ule. The god of Te Ule, Ngaliyeyeu, became angry. The god said to him, "Put out your fire, that the priests of the gods won't come here to take fire to cook their fish. Leave them to eat their fish only raw. If they are without fire to cook, they won't live. They have been boasting, they fancied that the fire belonged to them." Te Ule put his fire out. The priests became frenzied. They went to Te Ule to seek fire, "O Te Ule, where is the fire?" Te Ule answered, "There is no fire." The priests of the gods ate only raw food. Te Ule got his fish, rubbed his fire till it burned, grilled his fish till cooked, put out the fire. Such was his practice.

This is the technique by which the god succeeded in getting fire: a stick, *puapua*. Split the *puapua*. Cut the one portion into a very small piece. The name of the small piece is *kaunati*. The other half of the stick, place beneath. Shave the part on top of the back of the stick. Place the *kaunati* on this place, the name of which is *ikonga*. Then rub. There are two types of rubbing: short, rapid strokes (*patumate*) the one, longer, slow strokes (*wakanati*) the other. Arrived at another, later time, Te Ule told the technique for making fire.

372 For firewood, which is fairly scarce, many parts of the coconut tree are
312 utilized: flower sheath, dry flower stems, small dry coconut shells, and
482 occasionally very dry coconut husks. Firewood is also obtained from other trees, dead branches of which are broken from the trunk or picked up from the ground and broken by beating against a tree trunk or stone. Wood obtained from the reserves is placed in coconut mats, tied with coconut fibers in a bundle, and carried home on top of the head. Gathering firewood is
372 women's work. Today, as formerly, fresh fire is made only if it is im-

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[*] In another version of the story, Mauikatoto is said to be a god, but apparently not related to any of the three Maui brothers. Informant giving this version could not remember how Mauikatoto procured fire in the first instance.

372 possible to transfer fire from one cook house to another. It is a common sight in any village to see children and adults carrying fire from one cook house to another in order to start a fresh blaze.

To procure fire, one end of a coconut spathe (*[illegible]*) is placed in a burning fire until it ignites. As it is carried away, it is moved gently in the air to keep it flaming. To transfer fire from smouldering cinders or ashes another technique is used: a coconut spathe is held with the tip toward the body, and the butt end is folded back on itself about 12 inches from the end; a section of the spathe at the fold is shredded with the fingers; cinders or smouldering wood are picked up in the fold and carried back thus to the cook house, or else the cinders are blown upon and the shredded spathe ignited. This method is used regularly for starting fire with a match.

OVENS

343 Kitchens (*wale umu*) are small houses set back from the dwelling houses. In the villages they are permanent structures, well built, of the *wale waka-*
252 *yanoa* type (p. 111). In the copra settlements they are smaller, of rougher build, and, in the main, of the *wale toinaku* style (p. 109). The kitchen
372 shelters the oven (*umu*) which is situated at one end, often under a lean-to shelter, so that the prevailing winds blow the smoke away from the cooks.

The oven ground is excavated to form a sunken space about 4 feet square and 18 inches deep. The edges are lined with logs to prevent the sand from falling in. The bottom is filled with oven stones (*watu umu*), blocks of coral conglomerate (*koupapa*), or, when available, imported volcanic stones (*kala*). Because the coral does not last long under heat and must be frequently renewed, *kala* stones are highly valued. *Tridacna* shells are not used as heating material.

To build the oven (*pu te umu*), coconut shells (*ngaeke*) are piled on the floor of the oven, dry coconut husks (*pikipiki*) are stood around them, and the oven stones are piled on and around the sides of the husks. The shells are lighted by a burning coconut sheath inserted under them. When the fuel has burned out (*kua matemate te umu*), the hot stones are pushed aside (*tolo te umu*) with the butt of a coconut midrib (for this purpose called *tau*). Bits of burning wood and charcoal are thrown away. So as not to burn the food a few cold coral pebbles are sprinkled on the hot ground, and the floor of the oven is covered with *puapua* leaves (*lautolo*). Food packets covered with leaves are placed on the *lautolo*. The hot oven stones are piled on top of the food packets and covered with flat bundles of *puapua* leaves tied with coconut leaflet midribs. Green coconut husks are carefully arranged on top of the leaves so as to cover them entirely. The whole is covered again with several layers of *polapola* coconut-leaf mats arranged so there are no cracks through which heat may escape. Today old copra sacks form a convenient and valued substitute for *polapola*. The whole oven covering is termed *tutao*; to cover the oven is said *tu te umu* or *tai te tutao*. Whenever a woman
[414] comes back from the taro beds, she places a bundle of *puapua* leaves on her head to serve as a pad to cushion the weight of the basket of taro and tucks more leaves into the top of the basket to keep the taro from falling out. The leaves thus brought back to the cook house are preserved for use as oven covers.

COOKING

252 Cooking is done by women. On certain rare occasions a man may
262 prepare food without disgrace: when in a group of men alone on the reserve

252 lands, he grills fish for a meal; when a feast is being cooked, a man assists
462 his wife and children; when his wife is sick or gadding about, he may cook because no one expects him to go hungry; if a man is a cripple and debarred from men's work, he may cook; if there are no older sisters, a boy may help his mother prepare the Sunday feast. The one berdache on the island spends much of his time cooking with the women. Men always prepare pigs for cooking.

264 In former days it was tapu to eat or to carry food into the sleep house. All eating was done inside the *wale kai* or out-of-doors. Even today an adult Pukapukan rarely eats in a sleep house, though children often carry food into the house.

COCONUT DISHES

262 Coconut has always been the basic food of the Pukapukans. Unlike talo and fish, which are not sufficiently plentiful, coconut in some form is eaten
261 every day. Informants regard it as the best of Pukapukan foods because it gives the greatest variety of dishes. They say that the minimum number of nuts a man in good health requires each day to keep him strong and healthy is 10 large-sized drinking nuts, besides plenty of fish. During the great famine the daily ration of each person was four nuts which, with a little fish, was the only food. This was enough to maintain life but not enough to keep the people strong.

262 Coconuts are eaten exclusively by sick persons because of the tapu on their eating fish and because of the scarcity of talo. No stage of the nut
158 or any portion of it is tapu at this time.

The coconut in its various stages is most often eaten uncooked. Methods
252 of eating and preparing are:

262 1. The sweet husk of the *mangalo* is chewed (*ngaungau*) and sucked until it is dry. The edible husk is not grated for use as a flavoring in other dishes, as it is elsewhere, but is eaten ungrated and uncooked by itself or with a complement of hard, mature coconut flesh (*ipiipi*) or fish.

2. Occasionally *mokomoko* is baked (*mokomoko tao*) and eaten with *ipiipi*. The leafy growth or tissue (*mite*) in the heart of the coconut tree is eaten only when a tree is blown down or cut out. It is never taken from a living tree; to do so would kill the tree.

3. Nuts at the *mata* and *kaikaki* stages are eaten raw or are baked (*niu mata tao* and *niu kaikaki tao*) and eaten without a food complement (*kinaki*).

4. The following is the method employed in making *niu halohalo* from the *niu mata*: The drinking liquid is poured into an empty shell, and the nut is grated with the *halohalo* implement. Then the liquid is poured back, and the grated flesh and liquid are stirred together (*yau*). This is especially an infant's food. From the *niu mata* is also made *ipo niu halohalo* by baking the unopened nut in the oven or by cooking on hot coals or stones a nut opened at the eyes and propped up on stones. After baking or
[843] cooking the flesh is grated and mixed with the hot liquid. This is prepared especially for sick persons. The unopened *niu mata* is cooked on hot stones (*niu mata tunu*). The hot liquid is considered especially beneficial for parturient women.

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5. The absorbing organ of the cotyledon (*uto*) of the nut at the *uto* stage is eaten raw (*uto mata*) with a *kinaki* of the *ipipi* flesh that surrounds the *uto* or is baked (*uto tao*) without being removed from the shell.

6. A recipe (probably an importation from the Cook Islands) was given for *uto poi*. Baked *uto* is removed from the shell and pounded with the *tuki* in a *kumete* until soft, then coconut liquid of the *niu mata* or *niu kaliakalia* is added to the soft *uto* and the whole thoroughly mixed and eaten.

7. A dish called *yomi* was prepared in former times by allowing the flesh of a drinking nut at the *niu motomotomoto* or *niu mata* stage to rot in sea water for 8 to 10 days or until the flesh was thoroughly decayed. Coconut cream was mixed with the flesh, the whole was baked, and *yomi*, a thick, sour, creamy food resulted. Tradition states that *yomi* was the favorite food of the Yayake people when they lived on Motu Ko and was served by them with a *kinaki* of *likoliko* talo pudding.

8. From the nut at the *yakali* or *niu papaku* stage is obtained the *ipipi*, a common *kinaki* for fish or other foods in the absence of talo. From this *ipipi* also is made *lolo* (coconut cream). The nut is split into two and grated (*tuku*) on the grater (*tuai*). The *ipipi* is grated either finely or coarsely, depending on the excellence of the grater, whether the teeth are perfect and closely set or imperfect and irregularly spaced. To grate finely is *tuku wakalililii*; to grate coarsely, *tuku wakapotopoto*. These two types of grating are merely the characteristic results of particular *tuai* and are not related to the preparation of special dishes. It is desired at all times to avoid coarse grating: in proportion as the grating is coarse, the amount of *lolo* wrung from the gratings is less; and the finer the grating, the more the *lolo*. The gratings are picked up in the wringer of coconut husk fibers (*kaukaupa*) and wrung (*kuku*) into wooden bowls or coconut shells. The refuse (*ota*) left in the wringer after the oil is expressed is thrown away.

COCONUT OIL

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Coconut oil is used as a hair beautifier and skin perfume. To rub oil into the hair is *emomo*; to perfume the skin, *pani*. Oil was used mainly in the evening after bathing, when the day's work was finished. The three kinds of coconut oil are made as follows:

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1. *Vaikonga*: *yakali* flesh is grated and wrung out into a coconut cup; shredded leaves and flowers of sweet-scented plants are added to give fragrance; according to preference, *tiale*, *tou*, *nonu*, or *maile* leaves and flowers are used. The preparation is baked over night in the oven and is ready for use the next day.

2. *Yinu tutu*: *yakali* flesh is grated; leaves and flowers are added; the gratings are not wrung out but are placed in a coconut shell and exposed to direct sunlight for two or three days or until the gratings disintegrate and the oil separates; the oil is then wrung out into a shell. A hot stone previously fired in the oven is dropped into the oil, which is allowed to cool before being used.

3. *Yinu takataka tutu*: the flesh of the *takataka* nut, which can not easily be grated, is rubbed (*olo*) on the *punga tukatala* rubbing stone. Flowers are added to the rubbings and the whole is wrung out and placed in the sun until the oil disintegrates. It is then fired with a hot stone.

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All types of oil are considered equally desirable. A woman makes the one she prefers. The most common is *vaikonga*, as *yakali* nuts are more readily available than *takataka* nuts. The importance of oil to the Pukapukans is well brought out in the stories and chants, where the lover always makes a careful toilet with oil before leaving the house.

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TALO DISHES

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821 The supply of talo varies from village to village and from household to household and is conditioned also by seasonal factors:

> Ngake owns Motu Ko, and its extensive talo beds allow this village to draw on a large supply of talo. But because the reserve is distant from the village it is only during visits there to make copra that the villagers eat talo every day without stint. They bring back large baskets of talo on the return from the reserve. When this supply is exhausted, the village depends on the very limited number of talo beds on Wale, save on the occasion of large feasts when the women make special trips to the reserve to harvest talo. In general, then, Ngake does not have a large supply of talo and has to be as careful as Yato in its everyday use. Loto, on the other hand, has a regular and large supply of talo in the reserve of Uta on Wale on which it can draw constantly and extensively. This is a factor in the arrangement whereby members of households in other villages affiliate (*tau*) with Loto, so that some of this supply of talo is drawn upon by the other two villages. Yato village, with only small beds on Wale, has the least talo of the three villages. During their visits to Motu Kotawa the women fetch talo from Wale, making a constant drain on these beds throughout the year. Individual household differences within the three villages have resulted from vagaries of lineage and private ownership of the beds not communally owned.

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264 At the present time talo is regularly harvested on Saturday in preparation for the weekly feast that follows early morning church on Sunday. A little talo is occasionally eaten as a special treat on Saturday evening with some of the fish caught that day. Left-overs from the Sabbath feast are eaten on Sunday night or Monday. On the remaining days of the week talo is rarely eaten. Exceptions to this are all holidays and special feasts. From Monday to Saturday, in the normal run of events, most households eat exclusively coconuts (drinking nuts and their flesh, *uto*, *takataka* nuts, *ipipi* and *mukomuko*) and fish. Pandanus fruit and an occasional banana or papaya are added to this diet.

262 No talo dish is reserved for special occasions; any dish is made when the spirit moves. *Mawa* and *olo* are made for large feasts oftener than are the other dishes. Each must have its proper food complement. In general, the *kinaki* for talo puddings is fish or pork. Special *kinaki* are mentioned for individual recipes. Informants characterize all the talo dishes, without exception, as sweet (*malie*), delicious (*vene*), and very good (*lelei loa*).

252 Talo corms are prepared for cooking by scraping (*tele*) the mud off on a scraping peg (*tukituki*) with a coconut-shell scraper (*kai*). The corms are not washed previous to further treatment. To wrap talo in leaves and make the food packet is termed *yaui*, sometimes given as *aui*. Talo preparations are:

> 1. *Lulu*. Whole corms are placed on a pile of *puapua* leaves (*wawae ki loto o te lau puapua*). The ends of the leaves are folded over the talo and the bundle tied with coconut leaves (fig. 6, *a-b*). The food packet (*lulu*) is baked in the *umu* for 1 or 2 hours.

2. *Loloi.* Whole corms or corms cut into small pieces, according to preference, are placed in banana leaves (*lou wuti*). The package is placed on two crossed coconut leaflets, one of which is longer than the other. Two or three half coconut shells of coconut cream are poured over the corms. *Puapua* leaves are laid on top and the banana leaves folded over all. The package is fastened as shown in figure 6,*c-d* and baked in the *umu*.

3. *Tata.* Baked *lulu* is placed in a wooden bowl and pounded with the *tuki* pounder until each corm is flattened. Each corm is then dipped, first on one side and then on the other, into *lolo* contained in a coconut shell. The corms are then placed side by side on a leaflet platter (*laulau*) and served.

4. *Ipu koti.* Large, well-shaped drinking nuts are opened at the eye (*mata*) end of the nut and the flesh removed. Each shell (*ipu*) is half filled with uncooked corms cut into small pieces, then filled with *lolo*. The opened end of the shell is covered with a half shell. The *ipu* are baked in the *umu* for about 2 hours. The pudding is served in the shells.

5. *Tele.* Corms are scraped into small slices with *tukituki* and *koi*. The slices are placed on banana and *puapua* leaves, *lolo* poured on top, and the package bundled and fastened as for *loloi*. It is baked in the *umu*.

6. *Olo.* The *pungapunga talatala* scraper is placed on a *puapua* leaf. Corms are grated to a creamy mixture (*olo*) by vigorous rubbing against the stone. The *olo* is placed in a bowl and pounded with the *tuki*. Fresh water (*yua*) or coconut liquid is added, and *lolo* is stirred in with the *tuki*. A new coconut-leaf basket (*kete launiu*) is made and lined with *puapua* leaves. Into this container the *olo* is scooped with a coconut cup. The two sides of the basket are brought together and tied at the two ends and at the middle with a single piece of coconut leaf. The leaf is passed through from side to side at one end and tied with an overhand knot; the free end of the leaf is passed to the middle, knotted again, and passed on to the far end, where it is knotted finally. *Olo* baked overnight is *olo wakaulu*; *olo* baked for a few hours only is *olo tao uhe* (*olo*, baked to open). It has not such a crisp outer layer as *olo wakaulu*.

7. *Kanaka.* Uncooked *olo* is placed over a layer of *lolo* in a wrapping of banana leaves. The package is tied as for *loloi* and baked about 3 hours. Then the talo is removed and placed in a bowl. *Lolo* is added and the *kanaka* is broken up with a stick (*lakau puapua*) to work the brown crust on top into the pudding and the *lolo* into all. The food is scooped from the bowl with a coconut cup and served on a *laulau* platter lined with *puapua* leaves.

8. *Mauu.* *Kanaka* is prepared up to the stage of placing in a bowl. *Lolo* in coconut cups covered with half shells is cooked on hot stones and coals and added to the talo in the following fashion. The open cup of *lolo* is placed beside the bowl. The *tuki* is dipped into the *lolo*; with a twist of the wrist the *lolo* is scooped out of the cup and transferred to the bowl, where it is rubbed over the outside of the pudding. This is then cut into small pieces with a sharp piece of coconut shell and placed on a *pulaka* leaf. The remaining *lolo* is poured into the bowl and the cut-up talo is dipped into *lolo* and placed on the leaves, and is then ready for serving as [illegible].

9. *Poke.* *Olo* is placed in a bowl, *lolo* is added, and the whole is stirred with long, circular, clockwise sweeps of the *tuki*, the left hand grasping the top of the *tuki*, the right hand below. The *poke* is placed on banana leaves, the packet tied as for *loloi*, and baked in the *umu* for about 3 hours.

10. *Likoliko.* Uncooked *olo* is placed in shells. It is stirred with a small *puapua* stick until soft. *Lolo* is stirred in, and the *likoliko* is placed in baking shells and baked for 3 hours. The cover of each cup is then removed, the food stirred and served in the cups. This dish was the favorite food of the Pukapukan navigator and warrior, Te Nana, when he visited Yayake. Te Nana is reputed to have eaten 40 to 50 cups of *likoliko* each day.

1:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

252 11. *Wawa tunu pakapaka.* Peeled corms are placed on heated oven stones (*imu na pu*, the oven that has been burned) and allowed to cook for an hour or more. They are served with *ipiipi*.

12. *Wawa tukituki tunu. Wawa tunu pakapaka* is placed in a bowl, grated *yakali* nut flesh is added, and both are pounded until well mixed. *Lolo* is added to the mixture and the food is served in shells. The dish is considered very rich and is not often made.

13. *Pikopiko.* Very small, young talo cormlets (*pikopiko*) are peeled with the fingers. The cormlets and their petioles are broken into small pieces, placed in banana and *puapua* leaves, covered with *lolo*, and baked.

14. *Pota ulukau.* The outer skin (*kili*) of talo petioles is stripped off. The petioles and young leaves are shredded into small pieces, wrapped in *puapua* leaves, and baked. The food is then placed in a bowl, grated *ipiipi* (*ota*) is sprinkled over it, and the whole pounded together. Coconut water is added and the food served in *ipu*.

15. *Pota ulukau puaka.* When available, layers of pork fat are alternated with layers of petioles and leaves, and the whole baked in leaves. Before serving, *lolo* is poured over the food to make a rich, flavorsome dish.

16. *Tingapula.* Young talo petioles are peeled, broken into small pieces, and placed on *puapua* leaves. *Lolo* is added, the packet tied as for *loloi*, and baked.

262 *Pulaka* is considered less tasty than talo and is only eaten when the
252 flavor of talo becomes tiresome or when talo supplies are low. Most of the dishes made from talo are also made with *pulaka*, excepting *pikopiko*, *poke*, and *pota ulukau*. The talo dish called *lulu* becomes *tao paku pulaka* when made with *pulaka*; otherwise the names are the same, for example, *loloi pulaka* and *wawa pulaka*.

251 Uncooked talo is buried in the ground near the cook house for preservation. It will keep thus without rotting for about three weeks. Talo brought from Motu Ko in large quantities is treated in this way. Cooked talo or fish, left over from one day to the next, is preserved by baking in a fresh oven. It is placed in the oven overnight or kept in a basket tied to the cook house rafters overnight and placed in the oven on the next day. Large talo puddings have been known to be kept for a week or more without the *lolo* in them curdling (*vi*), simply through being rebaked day after day, though after much rebaking the puddings get hard and lose flavor. The
251 unusual thing about such preservation is that the puddings should remain
261 so long uneaten. This occurred however after island fishing feasts. One family got a very large share of talo from the division and then had a very bad week for fish, catching practically none. Without fish for a food complement, they could not eat the pudding and so kept on preserving it in the hope that the men of the household would soon get fish.

251 For rebaking, talo puddings are either wrapped in *pulaka*, banana, or *puapua* leaves (*wawi ki te lau pulaka ma*), or tied up in coconut leaflets (*takai ki te launiu*). The leaflet packet is preferred when a well-browned pudding is desired. Pairs of coconut leaflets are stripped from the midrib. One leaflet is twisted lengthwise round the packet, the second widthwise, and the packet fastened securely. To make them more pliable, the leaflet ends may be first heated over a fire.

OTHER PLANT FOODS

222 No origin myth is remembered for pandanus. Though it is not cultivated,
262 pandanus grows abundantly. The keys (*penu*) may be eaten raw
when ripe, with or without complement (*kinaki*). They may be sliced and
252 baked (*wala tao*) and eaten with *ipiipi*. Grated raw and added to talo
puddings (*olo wala* and *likoliko wala*) they give a sweet flavor. The juice
of baked keys (*makono*) is used in the same way. The fruit is enjoyed by
adults and children and provides an important flavoring and sweetening
agent in the native diet. Children crack open the keys and chew the inner
[821] kernel. The woman in the moon, Yina, is said to be seen kneeling before a
stone cracking open pandanus keys.

The banana was among the items fished up by Maui. Of the several
245 varieties of banana (*wuti*) growing on the island today, *wuti pukapuka* is
said to be old and indigenous. The trunk of the tree is called *pu wuti*.
262 *Lilo* is a small banana leaf; *lauwuti*, a large leaf, used extensively in cooking
as a food wrapper; *laumatu*, the old, dried, and withered leaf; *kau*, the leaf
midrib; *kili*, the fruit peel; *kiko*, the flesh. Bananas are not abundant on
the atoll and are not important in the daily diet. They grow in the talo
beds and close to the houses. When available, they are much in favor as
431 gifts. A household may get a small bunch of fruit from its trees once in
five or six months. Bananas are ripened by hanging or by burying. A
251 bunch (*to*) of green fruit is cut and buried in a hole in the ground 2 feet
deep and lined with coconut husks. The bananas are placed on a bed of
252 husks and covered with coconut mats (*polapola*), then more husks, and
finally with earth. After three nights the bananas are ripe and are eaten
raw or cooked on hot stones. If a meal is made of bananas the correct
complement is *ipiipi*.

249 Some sugar cane (*to*) is grown today on the talo bed embankments. It is
owned by the villages and at infrequent intervals is divided among all village
621 members. The cane is peeled with the teeth and chewed by children and
245 adults with great delight. The cane is *pona*; the rings around the cane, *vu*.
The few papaya trees (*ninita*) and lime trees (*tipola*) are grown on Motu
262 Kotawa and the fruits divided among all members of Yato village. One
breadfruit tree on the atoll was planted by a man from Aitutaki. Its yield
of fruit is negligible.

FLESH DIET

262 There were two staple flesh foods in former times, sea foods (fish, turtle, shellfish, crabs) and sea birds. (See pp. 27-31.)

No tapu against the eating of raw fish exists in Pukapuka, though visitors from Aitutaki have unsuccessfully tried to introduce the idea. Actually fish is not often eaten raw. A fishing crew occasionally eats some

262 of the catch raw to stave off pangs of hunger. *Kakai, pala,* and other big
252 fish that are particularly tasty raw are usually caught on Saturday and must
be saved and cooked for the Sunday feast. *Ava* (milk mullet), a small fish
tasty when raw, is caught only by Yato village from its pond and is generally
baked for village food divisions.

Large fish are split before cooking into four longitudinal quarters (*io*) by cutting along the longitudinal black blood canal and dividing each half into two. In the fore sections of the two bottom *io* is the choice part of the flesh called *pakoko* (fig. 7). It is fat and tasty and much preferred by pregnant women.

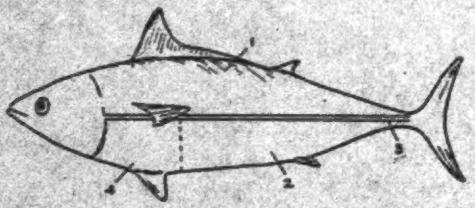

FIGURE 7.—Division of albacore fish: 1, upper sides, *io;* 2, bottom sides, *io alonga;* 3, dark-colored blood canal; 4, fat portion of flesh (*pakoko*) esteemed as special delicacy.

252 Small fish are not cleaned or scaled (*wolewole*) before cooking. Larger fish are roughly scaled by working the thumb along the skin from the tail to the head. Head, fins, and internal organs are not removed. Every part of a fish is eaten.

Only two methods are used for cooking fish: grilling (*tunu*) and oven-baking (*tao*). Fish to be eaten immediately are always grilled; fish to be eaten later in the day or on the next day are baked. For grilling large quantities of fish, a special fire is always built, even though another fire is already burning in the cook house. The grilling fire is built only of coconut shells (*ngaipu*) of the *yakali* or *uto* stage, which burn with a clear, fierce flame. The fish are laid on the glowing embers and turned from time to time until cooked. Small fish, particularly *kaloma,* are spitted on a coconut leaflet midrib, about 20 fish on each midrib, with all the heads facing one way and all the tails facing the other. They are grilled thus.

251 When there is a larger supply of fish on hand than can be immediately eaten, fish
is preserved by sun-drying (*wakala ki te la ke pakapaka*). Fish that has been dried
261 for several days will last indefinitely. Large fish—*kakai, pala,* and *atu*—are first split
into the usual four sections and twice oven-baked. Each section is then cut into smaller
pieces, placed on *laulau* food platters, and hung from house eaves to dry in the sun.
During the flying-fish season when there is an abundance of fish, flying fish are partially
grilled on hot stones and then sun-dried. They keep for a long time without spoiling.

252 Turtle flesh is grilled. The only correct complement for turtle in former days was
a talo dish. It was tapu to eat coconut with turtle. A man named Yawenga broke this
262 rule, so the story goes, and the next time he went turtle fishing he was caught by a
male turtle, which sounded and drowned Yawenga and then took his body to the legendary land called Valu Wetuna. It is likely that this tapu against mixing turtle flesh
and coconut is associated with the displeasure of the turtle when the woman Yina broke
a coconut on his head. Turtle ova (*uwa*) are eaten as well as the meat, fat, and cara-
262 pace, raw or grilled. Probably turtle eggs were not eaten formerly but were left to
hatch, an inference from informants' statements that it is only in recent times, since
136 people have taken the eggs of the turtle from the nest, that turtles have been dying out.

252 251 *Tridacna* shellfish (*payua*) are eaten raw or mixed with coconut cream and baked in leaves in the oven. Persons especially fond of them collect large quantities which they preserve for future use or for periods of want by stringing them on coconut midrib fibers (*kaleva*), 30 to 40 *payua* on each string. The strung *payua* are baked for a day or overnight and then hung from house eaves to dry in the sun for about 10 days. Thereafter they are placed in baskets and stored until wanted.

252 262 Wild birds are not preserved in any way. They are grilled and eaten immediately after they are caught. A bird is plucked at the beach and the feathers allowed to drift anywhere. Head and claws are left attached to the body and the bird is not gutted or cleaned in any way. A length of green coconut midrib, thrust down the throat of the bird and into its stomach, is used to hold the bird over the flames and embers of a fire made of *ngaipu* coconut shells until it is suitably grilled. All the bones are picked clean; the internal organs with the small fish and seaweed in the stomach bag and intestines are considered especially tasty morsels.

262 231 252 The pig (*puaka*) and the chicken (*moa*) were introduced after white contact. The pig, brought by early missionaries, is eaten today only at feast times or in food divisions to pay workers for services.

[554] A pig is led down to the beach and allowed to wallow in the sea to clean its skin before it is killed by choking. A stout stick is placed across the throat of the animal lying on its back with its legs held or tied. Men stand on each end of the stick until the animal is dead. The dead beast is singed (*mumula*) with flaming coconut leaves and the skin scraped (*valuvalu*) with a coconut shell. It is washed (*palupalu*) again in the sea so that the skin is clean (*makitakita*). The animal is then placed on a bed of coconut leaves laid on the ground. The stomach is opened up, the internal organs (*ngakau*), heart and liver, are removed and washed in the sea. The blood is caught in coconut cups and baked in them (*toto momoyo*, cooked blood). The intestines are grilled on hot stones; the liver and heart are wrapped in banana leaves and oven-baked. The whole pig is baked in an oven for 4 or 5 hours, according to the size of the animal, and then butchered and shared among the participants in the feast. The head (*ulu*), reserved for the chief, is cut off first; then in order the fore legs (*lima*), hind legs (*vae*), ribs (*ivi kayokayo*), back (*tua ivi*), and finally the hind quarter (*mulimuli*) are butchered. All these portions, together with the heart and liver, are again subdivided into the required number of smaller portions (*pona*). Save for the special portion for the chief, there is no reference in this division to rank or status.

[177] 231 262 Hens and roosters were introduced by a captain of a trading schooner whom the Pukapukans called Wuluwulu (Hairy-one) when he visited Pukapuka some time after the mission was well started in Samoa but before it was established in Pukapuka.

431 252 Chicken eggs play no important part in the diet today. It is probable that they were formerly left in the nests to hatch. At the present time eggs are used as gifts to visitors. We saw only one Pukapukan eating an egg, a child eating a hard-boiled egg. A great deal of trouble is taken over the raising of chickens, but at the present time they are rarely eaten. No household has enough chickens to have a chicken dinner very often. Only once, during the Christmas feasting, was a native family seen eating a chicken for a meal. A woman or a child chases the chicken to be killed, then hits the bird on the head until dead. Women or girls pluck the feathers, which are thrown into the sea. The body is singed, the head cut off, and the internal organs removed. The heart and liver are washed and baked on hot stones; the body is wrapped in banana leaves and baked in the oven. A live chicken, talo, and nuts are the usual gift feast sent to honor a friend. Only chickens found strangled in the trees or killed by the women's committee when found in the talo beds are regularly eaten by their owners.

224 The dog was unknown in Pukapuka. The native rat (*Mus exulans*)
244 was caught with the rat trap (*vaka kiole*) when it became a pest in the talo beds but was never eaten. Rats were never hunted with weapons for sport.

Though many stories are told about cannibals, cannibalism was probably
266 not practiced on Pukapuka. The use of human bone was tapu (*yo*), pun-
784 ishable by the goddess Taua (p. 309).

MEALS AND FOOD ETIQUETTE

264 No routine of set meals is followed. The nature and number of meals eaten by one household group on any one day depend entirely on the amount of food on hand and the program of work for the day:

> If the men have been fishing early in the morning, the family has a meal of fish and *ipipi* some time before 9 o'clock. If there has been no fishing and if there is no left-over supply of fish or talo, a regular meal is not eaten; each individual makes a fresh coconut or *uto* nut do. The Pukapukan feels no need for food before he starts work in the morning and may work until 10 or 11 o'clock without refreshment. A child going to school in the morning takes with him a drinking nut to eat as he walks along the road. A regular meal may not be eaten by a household for a whole day, sometimes even for the best part of two days. Before the second day has passed, fish is procured by some male member of the household and grilled for a formal meal, usually in the evening, not infrequently at 9 or 10 o'clock at night after the torch fishing. It was not unusual for us to be wakened in the middle of the night by a returning fisherman bringing us fish on the supposition that we would get up and eat it immediately. Our practice of eating at regular hours was always a matter of discussion and comment.

264 The words *kai, taumamaya, yamuyamu, lamulamu* apply to eating, wheth-
574 er by an individual alone or by a group, whether of a single coconut or of
431 an elaborate meal. There is no Pukapukan word for guest or host, nor is there any custom of entertaining friends or relatives for an occasional meal in the household. Special indebtedness is repaid by sending food gifts to the home of the friend.

264 Whether the meal is taken inside the cook house or outside on the open ground—as is usual for a meal on a fine evening—men, women, and children
576 all sit on coconut-leaf (*takapau*) mats, with crossed legs tucked under them. They sit in rows opposite each other. The food platters (*laulau*) are set (*wakaloaloa*) on *polapola* coconut mats in the middle. It is customary to rise and leave the group when satisfied (*yongia*). The food is taken from the center platters with the fingers in individual mouthfuls. Food etiquette is remarkable by its absence. There are no rules taught to the child on the correct way to eat food. There is no prescribed manner of chewing. Loud sucking, belching, gurgling, and loud smacking of the lips are all in good taste. The food may be packed into the mouth in any fashion. As it is divided into individual shares on the platters before being served, there is no opportunity for the quick eater to obtain more than his share of food.

264 Pukapukan food is invariably dry food that can be divided into separate
578 shares without the aid of food containers other than the coconut platter and
coconut shell. This sharing pattern leads to the grumbling of the *kaitangi*,
the person who thinks he has been given less than his rightful share of
food in the food division, whether of household or village feast. There are
many references in the stories to trouble caused by people who were *kaitangi*.
To a person who grumbles about his food, the classic reply is, "Wano koe
aumai te kaitangi no Yele" (Go and get the food share that did not satisfy
Yele), the implication being that even if the *kaitangi's* food shares were as
large as Yele's in the story (1), he would still be dissatisfied. In another
story, that of Watu-manava-nui, it is the dissatisfaction of Kumawawine that
leads her to betray her own Yayake people to the Tongan warriors, with
the result that all her people, including herself, were killed by the Tongans
and Pukapukans. The person who grumbles over his share of nuts is told,
"Wano koe ki te niu o Totoloa" (Go to the nut tree of Totoloa). This
refers to the god Totoloa's magical tree from which a nut was picked, eaten,
and then put together again and thrown into the tree, where it flourished as
before.

SUMMARY OF ECONOMIC SYSTEM

556 Because old age does not bring with it fear of economic insecurity, there
888 is no incentive to hoard wealth. Old people are cared for by children and
relatives, and no one ever suffers from lack of food or shelter. The life of
626 the lazy man might be materially easy, but he would suffer much through
476 ridicule; there would be few whose pride could stand the blow of being
allotted only a child's share of food. It is noteworthy that laziness never
181 enters as a theme of stories.

The village of Ngake makes more copra than the other villages and each
556 person in Ngake receives slightly more money from the proceeds of the
semi-annual sale of copra than do the people of the other villages, but this
434 does not mean that the increased wealth of Ngake villagers can be used to
tyrannize over the other two villages. The money is spent on clothes or
tobacco and increases personal prestige, not economic power.

433 The economic system is so well integrated with environment and social
structure that it has stood firm under the impact of an alien culture when
182 other aspects of Pukapukan society have been lost. Needs are well provided
for, individual skill is appreciated, insecurity is absent, and the accumulation of wealth has for its end redistribution in the interests of increased
prestige. Minor flaws in the system come from occasional inequalities in
food distribution; these are temporary and never serious enough to disrupt
the functioning of the major patterns, which draw their strength from the
basic social structure.

MATERIAL CULTURE

HOUSES

HOUSE STYLES

341 A wide variety of house styles is found in Pukapuka today. In the
797 permanent villages, the dwelling houses are either of coral lime roofed with pandanus thatch, or of a type introduced from Rarotonga by the missionaries,
343 with slat walls reaching to the roof and often with a wide veranda. Along with these modern houses are found old style dwelling houses and cook houses. Small, square, slat-walled houses which stand close to each dwelling house in the permanent villages were evidently orginally built under missionary impetus to serve as bath houses. Some of these bath houses are used for their assumed purpose, but the majority, after their novelty wore off, were converted into storehouses for fishing gear. Loto village at one time set up a row of wooden structures on coral lime foundations in the water a few feet from the lagoon beach. These serve as privies; many of them are in sad need of repair.

In the copra villages, most dwelling and cook houses are built in an old Pukapukan style. One house in particular, a watch house at the place Matala in Uta, has acquired undue prominence in the literature because of its age. Built about three generations ago at the time of first missionary contact, it is a well-authenticated example of one style of Pukapukan house building.

SIMPLE RIDGEPOST HOUSE

341 The *wale toinaka* (fig.8,*a*) is a small, low house, usually erected on
335 exposed outer beaches to serve as a cook house, sometimes as a sleep house. The framework consists of two ridgeposts (*pou tu*), which support a single ridgepole (*tau matua*). In one subtype, rafters (*uuti poto*) run from the ridgepole to the ground. In the other subtype, two wall posts (*pou*) on each side support wall plates (*kaukau matua*). Rafters run down from the ridgepole to rest on the wall plates. There are no thatch rafters; the thatch of coconut roof sheets is laid directly against the rafters, in such a manner that the midrib bases of the roof sheets function as thatch purlins. Lashings are of sennit or, as in a rough house examined, of dried *pulaka* stalks. Smaller houses of this type have one ridgepole only, but more substantial houses have a second ridgepole (*tau lua*), which is laid in the crossings of the rafters (fig.8,*a*). The ridgepole roof sheet is securely fastened to the framework by pegs (*yuki*) that are pushed through the sheets and between the two ridgepoles.

A roof extension (*kaumata*) is often added to the exposed end of these

341 houses. Two cook houses of the *toinuku* type each with a roof extension
335 were observed on the outer beach of Uta:

Two wall posts on each side support a wall plate. Two grooved ridgeposts support the ridgepole. Nine rafters run from the ridgepole to the wall plate on each side of the house. Coconut roof sheets are laid directly on these rafters. The northeast, southeast, and southwest sides of these houses are open, the ends of the rafters on these sides being about 3 feet from the ground. At the northwest end of the houses two low end posts, each about 18 inches high, support an end plate. End rafters run from the side rafters to these end plates. The thatching of the extension is continued to the ground by extra wide roof sheets that hang down from the end plate. This extension provides complete shelter against severe winds from the northwest. It also acts as a shelter for the ground oven and as a storage place for dry coconut shells and firewood.

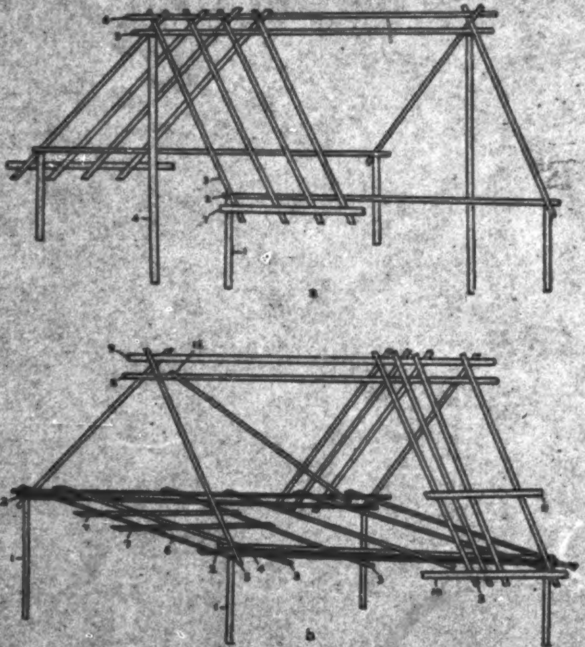

FIGURE 8.—Houses. *a*, framework for *wale toinuku* type house: 1, wall post (*pou*); 2, wall plate (*kaukau matua*); 3, rafter (*vouti poto*); 4, ridgepost (*pou tu*); 5, ridgepole (*tau matua*); 6, thatch ridgepole (*tau luo*); 7, purlin (*takilikili*). *b*, framework for *wakayamoa* type house: 1, wall post; 2, wall plate; 3, tiebeam (*oka*); 4, roof plate (*kaukau luo*); 5, rafter; 6, end purlin (end rafters not shown), braced by two supports (*yoka*); 8, main ridgepole; 9, thatch ridgepole; 10, side eaves purlin; 11, midway purlin (*talaau*); 12, diagonal brace (*yoka*), running from roof plate to main ridgepole.

TIEBEAM HOUSE

341
335
[171]

The tiebeam house with paired side supporting posts, wall and roof plates is termed *wale wakayamoa* (fig.8,*b*). Though similar to the Rakahangan and Samoan tiebeam houses (29, pp. 70-75; 27, pp. 15 ff.), the Pukapukan house customarily has no kingpost, its principal rafters cross below the ridgepole, and there is no set of wall posts other than the main series of paired wall posts which support the wall plates, tiebeams, and roof plates. For this reason I have retained the term "wall plate" for the longitudinal beam that rests on the wall posts, but this wall plate functions in the same manner as the tiebeam plate of the Samoan house. It is likely that the Pukapukan name for the type house, *wale wakayamoa*, is derived from its similarities to the Samoan house of this style.

This house type is used for dwelling and cook houses in both village and copra settlements. When the tiebeams are covered with a platform (*papanga*), on which coconuts at the *takataka* stage are stored, the house is termed *wale takataka*, a name sometimes given as the type name of the house. The *wale wakayamoa* is also constructed in the reserves as a watch house for the guards. On the outskirts of the villages rough structures of this type are used as shelters for disassembled canoe sections.

In the typical house of this style, two wall posts on either side, grooved at the upper end, support wall plates which rest unlashed in the grooves. Four tiebeams (*oki*) rest on these wall plates and project 18 inches beyond the wall plates to which they are lashed. Resting against the outer ends of each tiebeam are thin poles which serve as supports for the coconut-leaf wall sheets (*takapau*). Roof plates (*kauhau lua*) are placed longitudinally on top of, and at the outer extremities of, the tiebeams. Twelve rafters (*wuti poto*) run from roof plate to ridgepole on either side of the house. They are lashed to both roof plate and ridgepole and cross above the ridgepole to support the thatch ridgepole (*tau lua*). An eaves purlin (*takilikili*) and a second purlin (*talaoa*) midway between roof plate and ridgepole are lashed to the inside of the rafters on each side of the house. The roof plate seems to function here as a third purlin, and some informants gave *talaoa* as the name for both purlin and roof plate. On the two outer tiebeams at each end of the house are lashed, longitudinally, thin split sections of pandanus wood. These form end platforms for the storage of mats and household goods. They project beyond the outer tiebeam at each end to support an end purlin (*talaoa tala lewa*). The end rafters are lashed to this purlin and to an end eaves purlin. On one side of the roof framework, a diagonal strut (*yoka*) runs on the inside of the rafters from the ridgepole at the point where the first rafter joins the ridgepole, down to the roof plate at the point where the tenth rafter joins the roof plate. The strut is lashed to ridgepole, intermediate rafters, and roof plate. On the opposite side of the house, the strut runs from the ridgepole at the tenth rafter to the roof plate at the first rafter. In other houses of the *wakayamoa* type, two braces are used on each side. The braces run diagonally from the roof plate in the center upward to each end of the ridgepole. The type house has no other ridgepole support than rafters and struts, but in one house observed, a rough kingpost ran from the second tiebeam in from the end and supported a ridgepole. The kingpost, also called *yoka*, was of rough wood, undressed, and obviously a novel addition to the roof framework. It was lashed neither to tiebeam nor ridgepole.

Each gable end of the type house is made by running eight end rafters (*wuti poto*

341 335 *tala lewa*) from the end eaves purlin (which is itself lashed at each end to the side eaves purlins) to the end side rafters. Four end rafters run to the left side rafter, four to the right side rafter. The end rafters are of varying length depending on their distance from the highest point of the ridgepole. Another end purlin, midway between eaves purlin and ridgepole supports the end rafters on the inside. A variation may sometimes be introduced into the gable end of both the *wakayamoa* and the *wale atua* house types, by using for the end purlin a piece of timber that has a slight, natural curve in the horizontal plane. The end rafters would be made of suitable length to retain the natural curve of the purlin. In small houses of the *wakayamoa* type, where the end purlin was of small diameter, it was sometimes bent into an artificial curve through binding the two ends of the purlin to the ends of the two outermost side principal rafters and through graduating the length of the end rafters in such a way that when lashed to the purlin, they thrust it out in a slight horizontal curve. There are no side or end thatch rafters on the type house. The coconut roof sheets are fastened directly to the principal rafters, the midribs of the sheets functioning as thatch rafters.

Lashing

284 335 171 The lashing used for all parts of the house framework is of one pattern only, that of alternating curves, termed *yinu wakawiwi*. The lashing corresponds to the curved pattern lashing described by Buck (29, p. 72, fig. 5)

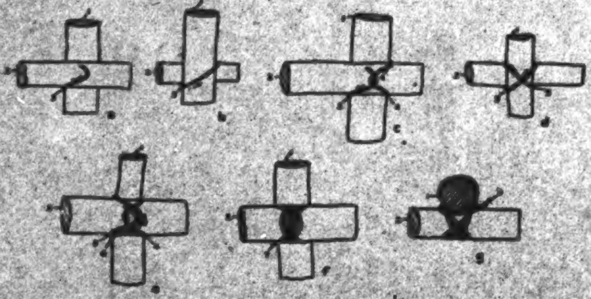

FIGURE 9.—Alternating curves lashing, used for principal parts of house framework; lashing shown for fastening together tiebeam (1) and wall plate (2). *a*, view from above: sennit braid laid on wall plate and held with thumb; free end makes curved turn on under side of wall plate (3). *b*, view from below: free end makes transverse turn across tiebeam. *c*, view from above: sennit braid (4) brought across commencement end, thumb holds crossing cords in place while braid makes curved turn across and down at wall plate (4). *d*, view from below: braid (5) makes transverse turn across and up tiebeam to curve around wall plate. *e*, view from above: braid (6) curves to right across second curve (4) and locks preceding two curves in place; thumb then removed and rough sennit does not slip. *f*, view from above: repetition of two curved turns successively applied on outer side of previous turns produces pattern (7); number of lashings varies according to elements, average number being 5 curves on either side, 10 in all. *g*, side view: crossings of turns and half of one design; braid (3) makes number of horizontal circumferential turns around lashing turns between two wooden elements; end of braid fixed by half hitches around last loops. (Diagram adapted from Buck, 29, fig. 5, p. 72.)

284 for a type Rakahangan house, save that the Pukapukan commencement
335 differs slightly from the Rakahangan technique. The Pukapukan lashing
is shown in figure 9. This lashing is extremely common in Pukapuka on
171 both houses and canoes, and is the only lashing used when it is necessary to
fasten together securely two crossing elements.

Thatching

285 All houses in former days were thatched (*ato*) with coconut roof sheets
(*pola launiu*). The method of plaiting the double coconut sheet is that
341 described by Buck (26, pp. 7-11, figs. 6-10) for Aitutaki. Before being made
312 into roof sheets the coconut leaf midribs are soaked in salt water for a few
hours to free them of insects. The roof sheets are attached to the rafters
284 by a continuous two-ply twisted sennit cord (*uka*); the method of passing
the cord through the sheets from the inside of the house and back from the
171 outside is that described for Aitutaki (26, pp. 19-21, figs. 23-25). A special
thatching needle (*yuki*) is used in Pukapuka, however, to facilitate this work.
Two methods are distinguished by which the sheets may be applied to the
rafters:

341 In one method (*ato yinaki lau*), the sheet midribs are all of the same length. They
are applied in courses running from eaves to ridgepole, the midribs about one inch
335 apart, contiguous courses overlapping. In the second method (*ato tele*) some roof
sheets are made with short, some with long, midribs. Long midribs (*ui pola*) alternate
284 in each course with short midribs (*pu pola*) and the sections running from eaves to
ridgepole are not defined as in the *ato yinaki lau* method. The *ato tele* method of applying the sheets is more laborious than the *ato yinaki* method, but a well-thatched roof of this type is more nearly waterproof and lasts up to 10 years, whereas an *ato yinaki* roof, though more easily and quickly applied, rarely lasts longer than four to five years.

In thatching a roof section, a long doubled sheet (*pola wewati*) is placed on the
rafters above the eaves. A long sheet is placed on top of this and the lashing to the
rafters commences. Short sheets alternate with long sheets. As the thatching advances
up the side of the roof, a worker lifts up the roof sheets to those who are lashing from
the inside by skewering them with a lifting pole (*tuku pola*), which has the customary
shoulder point. In both methods of thatching it is arranged that the last sheet to be
applied to the sides is a long one. On top of this and overlapping the ridgepole break
(*ati*) between the thatchings of the two sides is placed another sheet (*pola ati*),
covered by still another sheet (*pola toupoto*). Over all is placed a coconut ridging mat
[171] (*takapau toupoto*), made of two split half leaves and one whole leaf as described for
Aitutaki (26, pp. 24-28, figs. 28-34). The gable ends are thatched in the same manner,
starting from the double sheet at the eaves and working up to the ridgepole. The sheets
are shortened as the thatching comes close to the ridgepole. At the top a small space
is usually left for ventilation, and at the sides the edges of end sheets are often wedged
in between the sheets that form the side thatching. Some leave the overhanging sheets
at the eaves ragged and irregular, but others carefully trim the eaves edge of the sheets
in an even line (*kotikoti te tulutulu wale*).

When heavy winds are expected, the thatching of coconut-leaf sheets is reenforced by knotting together the tip ends of two coconut midribs, which are then slung over the roof thatching in such a way that one midrib falls

341 on one side of the roof, the other midrib on the other side. Where the roof
is low, leaflets at the butt end of each midrib are carried under the eaves
284 and tied to a thatch rafter. Where the roof is high, the weight of the
335 midribs is sufficient to hold down the roof securely. A number of these
double midrib slings are placed at intervals along the roof for added protection.

House thatching with pandanus leaves was introduced into Pukapuka by
[177] missionaries from Rarotonga. The method in use conforms in every particular to the Aitutaki method (26, pp. 11-24):

> 314 Pandanus leaves are collected in the reserves, and straightened (*woe lauwala* or
> *yayulo lauwala*) by passing them around an upright stick (*lakau woe lauwala*). The
> leaves are then fastened in bundles (*pokai lauwala*) by placing the tip end of each leaf
> 322 over the butt end and tying the ends of a number of leaves together. The leaves are
> 285 bent over and sewn to strips of wood split from the aerial roots of the pandanus. A
> sewing needle (*tui*) is used to split the longitudinal grain of the pandanus leaves so
> that the coconut leaf midribs (*tuania*) may be inserted to keep the leaves in position
> on the wooden strip. The completed roof sheet is termed *pola lauwala*.

Framework Construction

341 Pandanus wood is used almost exclusively in the framework of the
335 *wakayamoa* type house. Formerly the wall posts were buried about 12 inches in the ground, but in a modern house of this type, four ground posts are supported on low, grooved coral stones and the wall posts are fitted to these ground posts by mortise and tenon joints. In the modern house the tendency is also to fit together tiebeams, wall and roof plates with mortise and tenon joints, but in the old house this would have required much labor with shell adzes. Hence only the tops of the wall posts were grooved (*wakaulu pou*) to receive the wall plates, the heads of the rafters chipped out (*wakatala*) to fit against the ridgepole, and roof plates grooved (*wakakamu*) to fit against the tiebeams. If it is necessary to leave a house framework unthatched for several days all the principal posts are wrapped with coconut-leaf mats (*takapau*), and rafters are covered with a few coconut midribs, to protect the timbers from rotting or warping in sun or rain.

Wall Mats

341 In old houses of the *wakayamoa* type, walls are made with coconut-leaf
285 mats (*takapau*). Mats are made long enough to overlap two wall poles,
the depth of plaiting for each mat being about 12 inches. In a typical house,
284 four mats form a set between each pair of wall poles. The mats are supported at their upper, midrib edges by two or three sennit cords spaced
[171] equidistantly between the two edges. The method of support is the same
as the Samoan method (27, pp. 73-74, fig. 79). The mats operate on a Vene-

341 tian blind system and are raised and lowered according to the direction of
285 the prevailing wind. The overlap of the mat screens against the wall poles
284 prevents their being blown inward by the wind.

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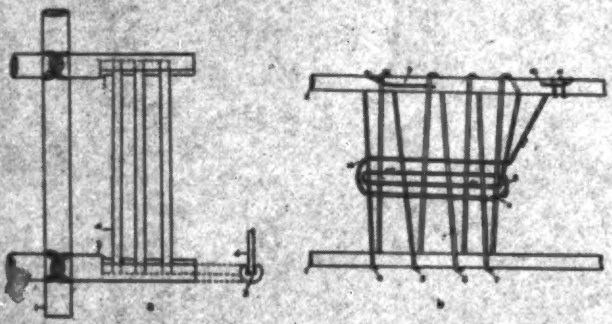

FIGURE 10.—Details of house construction. *a*, making of house wall (*moimoi*): 1, wall post; 2, horizontal wall logs; 3, point at which slotting of inner surfaces of wall logs commences; 4, thin rails fitting at each end into slotted wall logs. *b*, suspended loop lashing (*yimo wakamoa*), bracing first and second ridgepoles (*tou matua, tou lua*), also bracing third and fourth ridgepoles (*tautalu* and *mia momoli*) in model *wale atua* house: 1, main ridgepole; 2, second ridgepole; 3, buried commencement end of sennit braid laid on ridgepole; four figure-of-eight turns (4, 5, 6, 7) made around both ridgepoles; free end (8) passes in one circumferential turn round four figure-of-eight turns; free end then passes (9) through lower loop of figure-of-eight and back through upper loop (10); lashing finishes with overhand knot made on one cord of outer loop or else free end passes up to second ridgepole where it makes two or more turns (11) and finishes buried underneath two turns (12) and pulled tight.

Wooden Walls

341 Low walls (*moimoi*) are sometimes added to dwelling and cook houses
335 of the *wakayomoa* type by the following method, said to be old:

> Two pandanus logs about 6 inches in diameter are run between the wall posts, one log at ground level, the other about 30 inches from the ground. A rough slot is hollowed out about 3 inches deep and 2 inches wide on the inner surfaces of the two logs. A series of *puapua* poles, about 3 feet long and 1½ inches in diameter, is inserted vertically between the two logs, the upper and lower end of each pole resting in the slots. This wall, which resembles a close-set railing fence (fig. 10,*a*), incloses the house on three sides, leaving one end open for a door. On the outside of this low wall and between the top of the wall and the roof eaves (if the eaves are high), *takapau* mats are hung for extra protection. Cook houses rarely add the extra mat protection unless they are in exposed situations. The method of adding a wall to a house by inserting horizontal slats between uprights and tying the slats together by a continuous cord of sennit is modern and introduced from Rarotonga. [177]

House Platform

341 353 Most dwelling houses and a few cook houses are built on a platform of coral rubble (*paepae*), several feet larger than the ground area of the house. The rubble is contained by a curbing of coral stones 8 to 10 inches high. Some houses are built on a secondary or upper platform of rubble limited by a coral or log curbing, which forms the house floor and extends about 12 inches beyond the walls of the house. Most houses in the copra settlements are built on a single low platform, gravel inside the house being retained by log curbings.

Variations on Type House

Variations on the type house are found in the copra settlements.

341 335 One house on the back beach of Uta conforms in all particulars to the *wakayamoo* style, save that the ridgepole is supported by two ridgeposts, which stand on the inner side of the end tiebeams. This house combines features from the *wakayamoo* type and the *wale atua* type. Most houses on exposed beaches are permanently covered on three sides with *takapau* mats or *pola* roof sheets fastened to wall poles. Only the leeward side of the house is left open between the ground and low eaves. In exposed situations, cook houses and dwelling houses of the *wakayamoo* type are provided with roof extensions (*taumata*) to cover ovens or to provide a roomy wind break. The rafters on the exposed side of the house are extended to about 18 inches or 2 feet from the ground and supported on subsidiary wall posts and a subsidiary wall plate. The extension is thatched, and permanent *takapau* mats are fastened to the outside of the subsidiary wall posts.

A small typical *wakayamoo* house, used as a sleep house in Yato village, measured 15 feet 8 inches long, 11 feet 7 inches wide; the eaves were 4 feet 6 inches from the ground; and the ridgepole was 9 feet 7 inches from the ground.

Storage Houses

341 343 511 Houses of the *wakayamoo* type used as storage houses (*wale takatako*) for nuts, fishing gear, or old canoe sections are often built far enough from the village to be safe from fire, but near enough to be easily visited. The floor of a *wale takatako* is used either as a place for lumber storage, or as a workshop for craft activities. According to the number of nut trees a man owns and the number of nuts he has to store, he possesses one or more *wale takatako*. Four houses was the usual number for an average family in former times, before copra was made.

Storage Platform

[251] 343 284 Nuts at the *takatako* stage are stored on a platform laid on the tiebeams and occupying the whole area marked out by the tiebeams. The lengths of wood forming the platform and the rafters are laid very close together to prevent the intrusion of thieves. Legitimate entry to the platform is made through one or two gates or hatch-

343 ways built into the center of the platform. Formerly the bottom hatch (*pu lao*) was level with the platform and lashed to it by complicated knots supposed to be known 284 only to the owner of the house. When in use, the lashings were untied and the hatch placed on the ground. The top hatch (*pu ini*), about 12 inches directly over the first hatch, was lashed horizontally to the top ends of thin vertical poles, which were lashed at the bottom to the platform supports. The two hatches and the vertical supporting poles thus formed a sort of box resting on the platform. On visiting his *wale tukutuku*, the owner took with him a block of wood which he placed on the ground under the hatch. He mounted this block to unfasten the first hatch, inside of which he usually kept a length of rope. One end of this he fastened to the platform and then, by the help of the hanging rope, scrambled up to open the second hatch. On leaving, he securely fastened 343 the hatches, retied the knots, placed his piece of rope on the platform, and carried off his block of wood. After white contact a short ladder, something like a truncated 417 grocer's ladder, came into general use to reach the platform hatches. This was called *tula*, a name probably derived from the word "stool". It was kept in the owner's 414 sleep house when not otherwise needed. I saw no *wale tukutuku* house with two hatches in the storage platform. The above description is based on informant's account of old 177 time practice. Many houses today, however, have the single hatch, which as often as not is fastened with hinges and padlock to the platform.

RIDGEPOLE, WALL PLATE HOUSE

341 The type *wale atua* house is a bilateral wall plate house with two or more ridgeposts supporting the ridgepole (fig. 11). The type house was used in 344 former days principally as a god house (*wale atua*), but the massive construction style made the same type of house ideal for a meeting or watch [illegible] house. Smaller houses of this type were occasionally used as sleep houses. There are available for study today the watch house at Matala, erected 75 years ago (described as type), a sleep house on the outer beach of Uta, and a model *wale atua* house (C8086)[7]. Brief mention of certain features of the framework of the watch house has already been made by Macgregor (20,p.43).

The watch house was originally constructed with six wall posts. A seventh post has been added at a later date to give added strength. The wall posts of *puapua* wood are sunk about an arm's length in the ground. Each post is round in cross section, save at the top where it is adzed roughly rectangular. The top of each post is grooved to receive the wall plates of pandanus wood, which are laid in the grooves, unlashed (fig.11). Five tiebeams are placed transversely across the wall plates, one tiebeam at each end, and the other three equi-spaced along the length of the house. The end of each tiebeam is grooved to fit securely over the wall plate to which it is lashed. The ends of the tiebeams are flush with the wall plates. Two ridgeposts of *puapua* wood, buried in the ground at one end and grooved at the other end, support the main ridgepole of pandanus wood which rests in the grooves and is unlashed. Each ridgepost rises from the ground on the inner side of the second tiebeam from each end; about 8 inches separate ridgepost and tiebeam. Running between wall plate and ridgepole on either side of the house are six principal rafters of pandanus wood. Each rafter is round in cross section but is grooved at each end to fit against ridgepole and wall plate, to which it is lashed. Each rafter at its lower end projects about 9 inches beyond the wall plate. The under surface at the end of the rafter is flattened that the square surface of the eaves purlin may fit more closely to it before lashing (fig.11,c).

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[7] Unless otherwise noted, all collection numbers refer to specimens in Bernice P. Bishop Museum.

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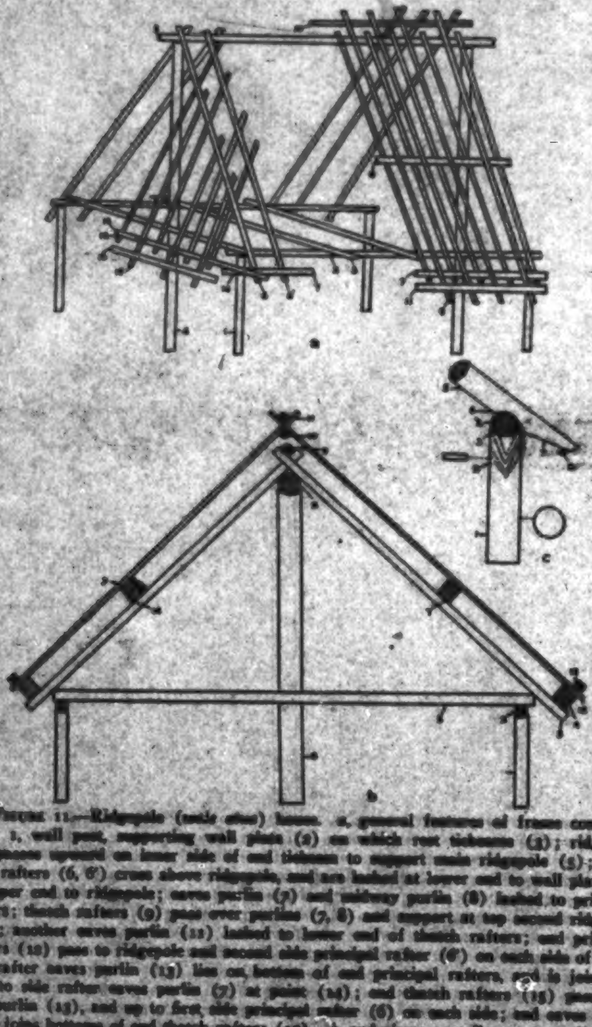

FIGURE 11.—Ridgepole (*[illegible]*) house. *a*, general features of frame construction: 1, wall post, supporting wall plate (2) on which rest tiebeams (3); ridgepost (4) braced upward on inner side of end tiebeam to support main ridgepole (5); principal rafters (6, 6') cross above ridgepole, and are lashed at lower end to wall plate and at upper end to ridgepole; eaves purlin (7) and midway purlin (8) lashed to principal rafters; thatch rafters (9) pass over purlins (7, 8) and support at top second ridgepole (10); another eaves purlin (11) lashed to lower end of thatch rafters; end principal rafters (12) pass to ridgepole and second side principal rafter (6') on each side of roof; end rafter eaves purlin (13) lies on bottom of end principal rafters, and is joined at side to side rafter eaves purlin (7) at point (14); end thatch rafters (15) pass over end purlin (13), and up to first side principal rafter (6) on each side; end eaves purlin (16) joins bottoms of end thatch rafters (15). *b*, end view: 1, wall post; 2, wall plate; 3, tiebeam; 4, rafter eaves purlin (*[illegible]*); 5, rafter; 6, ridgepost; 7, midway purlin, on left side widened by chock (*[illegible]*) (14); 8, main ridgepole; 9, second (rafter) ridgepole (*[illegible]*); 10, third (rafter) ridgepole (*[illegible]*); 11, fourth ridgepole (*[illegible]*); 12, thatch rafter (*[illegible]*); 13, thatch rafter eaves batten. *c*, detail of wall post and rafter: 1, wall post, round cross section, adzed at top to produce rectangular cross section 2; head of wall post grooved (*[illegible]*) (3) to receive wall plate (4); principal rafter (5) grooved on inner side (*[illegible]*) at 6 to fit over wall plate; inner side of rafter flattened (7) so that eaves purlin (8) will fit closely.

341 On each side of the house 25 thatch rafters (*kayo*) of *puapua* wood are lashed to
the eave and midway purlins. At the top, each pair of thatch rafters crosses above the
344 ridgepole to support a thatch ridgepole to which each rafter is lashed. At the bottom,
the thatch rafters are lashed to a thatch purlin which passes longitudinally on top of
355 the series of rafters.

Each gable end is formed first by three principal end rafters of [illegible] wood
284 which are lashed to the end tiebeam. The two outermost end rafters run between the
end tiebeam and the two outermost side rafters, being lashed to these about two-thirds of the distance from the lower ends of the side rafters. The middle end rafter runs from the end tiebeam to the main ridgepole and is lashed to it at a point 3 feet from the end of the ridgepole and on the inside of the first two principal end rafters. To the bottom ends of these end rafters is lashed an end eaves purlin. The nine end thatch rafters are lashed at the lower end to an end eaves purlin, and at their upper end to the second side thatch rafters. Thus the gable ends of the house incline obliquely inward so that the main roof projects beyond the gable end for a distance of about 2½ feet.

The lashings of this house are of two kinds. The lashing of thatch rafters to eave and midway purlins and to thatch ridgepole, and of the end thatch rafters to the side thatch rafters is by a continuous cord of three-ply braided sennit, ⅛ inch thick, which takes two transverse turns around the two crossing elements, then makes a single circumferential turn around the transverse turns between the two elements, and passes to the next crossing elements. All other lashing is the typical Pukapukan alternating curves pattern lashing with three-ply braided sennit, ⅛ to ¼ inch thick.

The thatching of this house is with coconut roof sheets, the method being that described for the *wale wakayomea* house.

The floor is covered with coral gravel which is retained by lengths of timber laid on the ground on the inside of the wall posts.

Principal measurements of this *wale atua* type watch house are: length, 34 feet; width, 14 feet; height of wall posts from the ground, 4 feet 10 inches; height of eaves from the ground, 3 feet 10 inches; height of ridgepost, 10 feet 2 inches; diameter of ridgepost, 5 to 6 inches; diameter of wall posts, 9 inches; diameter of tiebeams, 6 inches; diameter of principal rafters, 4 inches.

Variations

341 The construction of the sleep house on the outer beach of Uta and that
335 of the model house in Bishop Museum are identical with the basic structure
of the watch house first described, except for the following variations:
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Sleep house. This house has four ridgeposts, grooved to hold the ridgepole. There are four wall posts on either side of the house, grooved to receive the wall plate. Four tiebeams are placed on these wall plates, their ends flush with the wall plates. Rafters cross above ridgepole to take thatch ridgepole, and are flush at their lower ends with the wall plates. There are no purlins or thatch rafters, roof sheets of coconut being fastened directly to the rafters. Along the windward side and west end of the house, there are subsidiary wall posts, each 2 feet apart, which are lashed at their upper end to the wall plate or end plate. The thatching from the roof or end is continued to the ground on these sides, the coconut roof sheets being applied directly to the subsidiary wall posts to form a permanent wall. At the east end of the house, the end rafters run out at an angle of 60 degrees from the side rafters, and are supported at their lower end by six low end posts, each 20 inches high, and an end wall plate. The east end thatching continues to the ground, and the end thatching is tied directly to the end wall posts. The whole of the south (leeward) side of the house is permanently open. This house is 24 feet long and 10 feet wide; the ridgepost is 6 feet high, and the eaves on the south side are 2 feet from the ground. The house is low, strong, and compact, well

[342] adapted to withstand the fierce gales from the northwest that strike this exposed beach with full force.

341 335 Model house combining features from both the *wale wakayewoe* and the *wale atua* types. This house has five wall posts on either side, two wall plates, and six tiebeams, which project beyond the end of the wall plates and support two roof plates. There are four ridgeposts, one on the inside of each of the end tiebeams and one on the outer sides of the third and fourth tiebeams. Eight principal rafters on each side run from the roof plates and cross above the main ridgepole to support a rafter ridgepole (*tau hua*). There are two purlins on either side, an eaves purlin and a midway purlin. The midway purlin on one side is narrower than that on the other side. In order to keep the thatch rafters on both sides equidistant from the principal rafters, the narrower purlin is given additional width by chocks (*neinei*) inserted between purlin and rafters. Thatch rafters run on the outside of the purlins. At the top, they support on the under side a third ridgepole (or a thatch rafter ridgepole), *tautola*, which is separated from the rafter ridgepole by chocks (*neinei*) but is lashed to the thatch rafters. On top of the crossed thatch rafters is laid a fourth ridgepole (or thatch ridgepole), *niu momoli* (fig.11,*b*). At the bottom, the thatch rafters support a thatch eaves purlin.

At each gable end, end wall plates (or additional tiebeams) are lashed at each end to the ends of the side wall plates. The principal end rafters are fastened at the top to the second side rafters, all save the center end rafter which is fastened to the main ridgepole between the second and third side rafters. At their lower ends, the end rafters are lashed to the end wall plate, but project downward and beyond this to support an end eaves purlin, which is itself fastened at each end to the side eaves purlins. The end wall plates are braced by two struts (*yoka*) which are lashed to the two outer tiebeams and project far enough to be lashed to the end wall plates. The end thatch rafters run on the outside of the end eaves purlins to the first rafter on either side. On the bottom outside of the end thatch rafters is lashed a thatch rafter eaves purlin, which is itself joined at each end to the side thatch rafter eaves purlins. The ridgepole is further strengthened by two diagonal braces (*yoka*), each brace running from the middle of the third tiebeam (counting from each end) to the main ridgepole, and lashed to both tiebeam and ridgepole.

341 335 284 The lashings of this house conform to Pukapukan pattern. The central principal rafters and the diagonal braces, which both lie against the main ridgepole obliquely, are lashed to the ridgepole by four transverse turns which are themselves tightened by three circumferential turns (*yiwe wakapeka*). The first and second ridgepoles and again the third and fourth ridgepoles are braced against each other by five transverse turns of sennit which are made taut by three or four circumferential turns, thus forming a suspended loop lashing (*yiwe wakawewe*; fig.10,*b*).

341 335 The variations in this model *wale atua* type house bring it close in type to the *wakayewoe* house, the only distinction being the use of ridgeposts in the model and the heavier construction of the roof framework. It was suggested by informants that the reason for projecting the tiebeams beyond the level of the wall plates, and then adding —of necessity—roof plates to support the principal rafters, is to protect wall posts of pandanus from exposure to the weather. By projecting the tiebeams a sufficient distance (from 12 to 18 inches), low eaves would give ample protection to the wall posts, especially if thin poles are run between the ends of the tiebeams and the ground to support wall sheets. If these poles rot, they can be replaced easily, but it is difficult to replace main wall posts without pulling down and rebuilding the roof framework.

HOUSE FURNISHINGS

352 513 Furnishings of the Pukapukan house are of the simplest kind. People sleep on coconut leaf and pandanus sleeping mats laid on the coral pebble floor or on wooden platforms. When not in use, mats are rolled (*tapula*)

352 and kept on rough platforms made by laying longitudinal members across
373 the tiebeams of the house. Plaited pandanus satchels (*tulumo*, p. 134) for
valued fishhooks and larger satchels of the same type for malos and other
415 items of dress were also kept on the tiebeam platforms.

Plaited pandanus pillows (*ulunga laukaua*, p. 134) and wooden headrests (*ulunga lakau*; fig. 12, *d*) were in occasional use. Most people, however, did not go to the trouble of making a special pillow but used for this purpose any suitable block of wood. Soft driftwood was favorite material, a piece of cork of suitable size and thickness being most prized. Today, the usual
177 headrest is a block of wood inserted into a European pillowcase and packed
554 tight with a thin layer of kapok. This pillow combines a desired hardness with the prestige value of using a European object.

352 Wooden back rests (*teke*; fig 12, *c*) were occasionally made in former
516 times. Made of [illegible] wood, they were used for resting in a reclining position inside or outside the house.

Insect switches (*[illegible]*) are in great demand when mosquitoes (*[illegible]*)
358 become vicious:

285 These switches are quickly made by superimposing three sections from the tip end
412 of coconut leaf midribs, each section carrying 10 to 20 leaflets. These are bound together by several transverse turns of fiber from the coconut leaf midrib or by passing two leaflets from the bottom midrib around the several midribs in opposite directions and tying the ends together with overhand knots. The switch is discarded when the leaflets become dry.

Brooms (*[illegible]*) made from leaflet midribs are in common use to sweep up rubbish from the floor of dwelling or cook houses.

A short broom (*[illegible]*, CB193) is made of midribs (*[illegible]*) stripped from coconut leaflets and dried in the sun. These are caught about 1 inch from the proximal end in a three-ply braid of pandanus material (*lito*) about ½ inch wide. The projecting midrib ends are bent over and braided with one of the *lito* plies as a single ply. The braiding is continued for about 25 inches; for this length, about 170 midribs are required. When all the midribs have been added, the braiding is continued for about 6 inches and fastened with an overhand knot (*[illegible]*). Starting with the commencement end, the braiding is rolled (*[illegible]*) on itself to form a convenient bundle of midribs. The free end of the braid is wound around the butt ends (*[illegible]*) of the midribs and fastened with an overhand knot. The distal ends of the midribs are trimmed off to make bristles about 2 feet long.

A large broom (*[illegible]*) for sweeping the ground outside the houses is made from hard coconut midribs that have dried on the leaflets. The midribs are gathered together in the hand and spaced evenly around the end of a long handle, generally a length of *ngangie* wood about 4 feet long. The butt ends of the midribs are fastened to the handle with transverse turns of *[illegible]*, commencement and finishing ends being buried underneath the turns.

354 Lighting inside the dwelling house is usually provided by burning a few
372 dry coconut shells on the floor. Today kerosene lanterns are fairly common,

354 especially for evening prayers and for all-night vigils over a corpse. Out-of-doors light, on dark nights of the moon, is provided by small coconut-372 shell fires. When dry shells are plentiful a number of half shells are strung together on a strip of pandanus material (*lito*) about 2 to 3 feet long by passing one end of the pandanus strip through the soft eyehole of the half shell. Two parallel rows of these shells are placed on the ground and a few dry shells rested on top of the two rows. The shells are lit at the windward end with a *taume* torch and burn with a fierce flame. Such a firelight torch of dry coconut shells is termed *lama ngaipu*.

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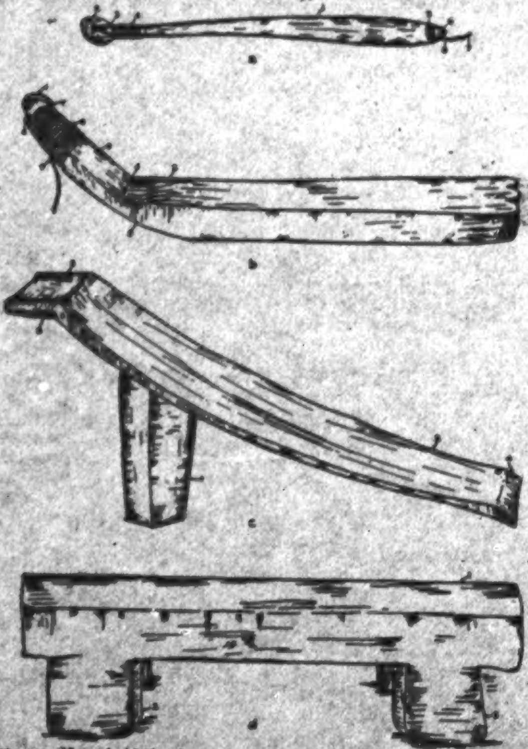

FIGURE 12.—Household implements. *a*, scraper (*valuyi*) (C8127) for removing flesh in making coconut water container: handle of *ngangie* wood (1) 13½ inches long, 1 inch thick at proximal end, and ½ inch thick at distal end; under surface of handle slightly concave longitudinally; distal end of handle inserted into carefully chipped hole

352 in scraping shell (*tuakyi*, *Nerita polita*) a little to left of apical whorl; four lashing
412 turns of fine three-ply sennit braid (3) pass from handle through shell (2) where commencement end is buried, lashing continues with 16 transverse turns around distal
322 end of handle (4); finishing of lashing buried beneath last turns; at proximal end a thin cord (7) of twisted *wuo* fiber is attached so that the scraper may be hung up; two notches (5, 6) cut in handle; the two plies of *wuo* cord lapped about notch (5) and
284 fastened with figure-of-eight turns of fine, two-ply twisted sennit which pass around handle and between two notches; free end of sennit seized (8) around *wuo* cord and finishing end buried. *b*, coconut stand grater (*tuai*) (C8106): clam-shell grater (1) mounted on wooden stand (2) cut from solid block of *tou* wood; horizontal base 1 foot 10¾ inches long, 4½ inches wide at proximal end, and 2 inches thick; two triangular notches cut into proximal end said to be old form of ornament; oblique arm (3) 7 inches long, 3 inches wide, and 2 inches thick; angle (4) at which arm leaves horizontal base obtuse, under side (5) shaped and rounded off slightly; distal end of oblique arm (6) slotted for depth of 2 inches and concave so that convex outer surface of shell grater fits securely against arm; a piece of cork (7) fitted against inner concave surface of shell grater; lashing of three-ply braided sennit (8) applied over cork and around arm; lashing consists of 24 turns with buried commencement, and under normal conditions finishing end would also be buried, but in this grater free end is not cut off flush with transverse turns but is knotted and left free (9) so that grater may be hung up by free end. *c*, back rest (*tuke*) cut from solid block of *wuhanow* wood (C8161): 1, four-sided stand 8¾ inches high at back and 5¾ inches high at front, sides about 2½ inches wide; 2, main backrest, surface of which has slight transverse and longitudinal concavity, 1 foot 3½ inches long, 9½ inches wide, and ¾ inch thick at edges; continued by horizontal extension rest (3) 4 inches long, ¾ inch thick at sides; 4, end resting on ground has bevel 1½ inches wide; 5, under surfaces of horizontal extension (3) shaped obliquely, coming together in short medial longitudinal ridge 1¾ inches high. *d*, wooden headrest (*alunga lakau*) (C8184); roughly cut from single block of *puapua* wood: 1, pillow section 1 foot 7 inches long, 5 inches wide, and 2¾ inches thick; 2, four legs, each 2½ inches high, 3¾ inches wide, and 2 inches thick; 3, slight flare at base of right front leg due to unskilled workmanship and not to design.

352 Furnishings of Pukapukan houses today include little that is modern.
513 Occasionally one sees a European chair. Most houses have wooden chests or suitcases in which clothes are kept. European mosquito nets are in com-
404 mon use, and several houses proudly display antique sewing machines. Beyond these few articles and bundles of mats, the house interiors are
177 generally quite bare.

FOOD UTENSILS

245 To harvest and husk coconuts, the climbing bandage (p. 146), husking stick, and carrying pole are used. The husking stick (*koyo*, C8049) of *ngangie*
412 wood is driven into the ground for two thirds of its length. Informants
482 were sure that the short stick was the only type used formerly, the worker kneeling or squatting on the ground to husk. Today, a much longer stick is generally used, the husker standing and bending over the stick. The carrying pole (*amo*) is a convenient length of coconut leaf midrib on which a nick is made at each end. Pairs of nuts are slung over the pole, the

245 fiber joining end pairs resting in these nicks. The carrying pole is discarded when the worker returns to the village. Shaped, permanent carrying
482 poles are never used.

A spatula-shaped implement (*kalokalo taunayo*, C8036) of *ngangie*
252 wood is used to scrape out the soft flesh of the drinking nut. One end has a sharp point used for opening the nut by piercing the soft eye. The other
412 end is broad and is used for scraping out the flesh after the liquid has been drunk. The implement is a combination of scraper and spoon.

A hand grater (*kalokalo ui mata*, C8091) is used for grating the flesh of the coconut to make the coconut food called *niu kalokalo*. The blade is the *uyoloto* section of a pearl shell. The nacreous inner surface of the shell forms the front surface (*aloalo*) of the blade, the black outer surface forms the back (*tua*) of the blade. The teeth of the serrated edge of the blade are termed *mata*. The blade is fixed to the handle of *ngangie* wood by 17 transverse turns of three-ply sennit, with buried commencement and finishing ends.

A stand grater (*tuai*) is used to grate the flesh of the mature coconut to make coconut cream. No shell graters (fig.12,b) are in use on the atoll today, but the stand-grater principle is retained in the use of a toothed metal grater attached to a wooden arm which is fastened to a box. To use the shell grater, the worker sat on the horizontal base. Holding the half coconut with both hands, she worked the flesh against the grater teeth with a downward rotary movement. The gratings fell onto a coconut mat on which the grater rested.

415 A coconut cream wringer (*tawanga*) is made from the husks of the coconut at the *niu mata* stage after burial in beach sand to mascerate the interfibrous material. The husks are beaten with a stick to remove the decayed parts, washed in water, and are ready for use when dry.

Food packages for transporting talo pudding or fish are made by placing the food on the platter called *loulou ava loloi* and then folding back the two tails (*wakapona*) of its finishing edge over the food; the tails are pushed through the plaiting just below the midrib commencement edge, their free ends tied in a reef knot to make a compact package.

415 Water containers (*wowongi*; fig.13,a) are made from especially large coconut shells. The husk is removed and the shell opened at the soft eye.
303 The liquid is poured off and the shell filled with salt water. When the flesh has rotted, it is removed through the soft hole with a special scraper called *valuyi* or *valu wowongi* (fig.12,a). A handle of sennit is tied to the netting on either side and the containers hung in pairs (*wawai*) to the rafters of the cook house. No containers were seen in use, their place being taken by buckets or empty cans.

244 Various implements are used in the harvesting and preparation of talo. The worker in the talo gardens formerly sliced the petioles from the corms
412 with a cutting implement (*taku*, C8096, C8097) made from the backbone of the turtle. This knife was also in general use as a cutting implement as was a knife (*pala*, C8145) made of the jawbone and attached teeth of the *pala* fish (*kauwae pala*). No spade was used for replanting talo; if the ground was hard it was first loosened with a short, straight digging stick (*koyo*).

252 Talo is prepared for cooking by scraping the dirt from the corm. A scraping peg (*takitaki tele wawa*, C8083) is made from a section of coco-
412 nut midrib (*palelowa*) about 17 inches long. The proximal end of the peg is rested on the ground and the distal end placed against a half coconut shell or piece of wood of suitable height 6 inches from the distal point. The worker holds the proximal end of the peg tight by resting her left knee on it. She holds the corm with the left hand at the distal point of the peg and scrapes (*tele*) the corm downward and toward the body with a scraper (*kai*). The *kai* (C8084) is the bottom portion of a small, discarded dry coconut shell. Part of the outer edge circumference is cut away to form a short cutting edge.

After the scraping, the talo may be sliced (*tele*) into sections with the *kai* scraper, cooked whole, or grated on a stone grater (*watu ola wawa*). A typical grater (C8053) is a block of coral (*punga talaiala*) with a rough surface. The block weighs 8 pounds, is 15½ inches long, averages 6½ inches wide, and is 3 inches thick. The worker sits before the stone and rubs the corms under pressure up and down the surface of the stone.

An oven spreader used for spreading (*tolo*) the hot stones of the oven is a section of the butt end of a coconut midrib (*paleloua*). Oven tongs (*pingoi* or *mangoi*, C8191) are made of a piece of coconut midrib, 18 inches or more long. The leaflets are trimmed from the side edges and the midrib doubled so that the outer fibers snap while the inner ones remain to form a sort of hinge. The tongs are green when first made but dry quickly and become brown. Tongs are in constant use for shifting the hot stones of the native oven.

252 Cooked talo is pounded and mixed with coconut cream in a wooden
412 bowl (*kumete*). A small bowl is shown in figure 13,*a*. A common type
pounder (*tuki*) of *ngangie* wood is shown in figure 13,*b*. Pounders in use
413 become polished with oil. Those seen in use ranged from 1 foot 5 inches to 1 foot 7 inches long, with 3¼ inches diameter of pounding base. A cone-shaped proximal end is common, but a few pounders have a terminal knob. A larger wooden stirrer (*you*) also of *ngangie*, is shown in figure 13,*c*. Other bowls in use were examined in the field. They may be briefly described to

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show variations on the type elliptical bowl. All bowls were carved from a solid block of wood. Large bowls used to prepare the talo foods for feasts are named after their makers.

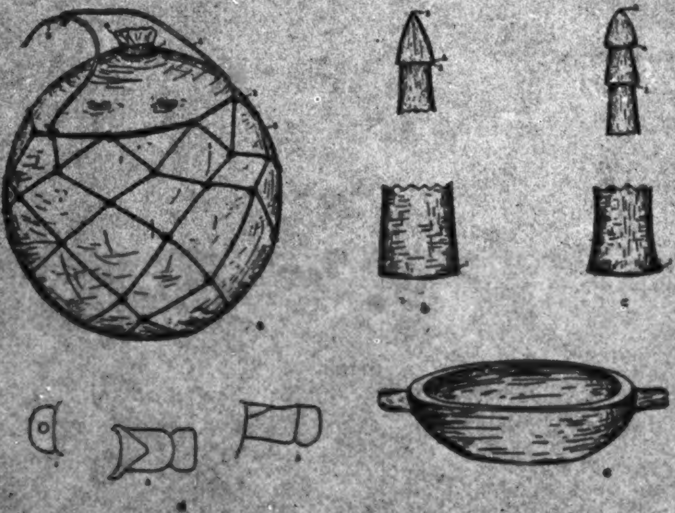

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FIGURE 13.—Household equipment. *a*, coconut water container (*wowongi*) (C8052): soft eye (1) of large coconut (2) opened and enlarged; net (3) of two-ply twisted sennit cord encloses shell; handle (4) made by knotting three-ply braided cord to top of netting on either side and knotting another cord (5) to first one; 6, cork (*momono*) a strip of dry pandanus leaf rolled into cone shape and stuffed with more pandanus leaves. *b*, talo pounder (*tuki*) of *ngangie* wood (C8050): weight 4 pounds, length 1 foot 10 inches, diameter of base (1) 3¾ inches, diameter of neck (2) 1¾ inches; distance from point of proximal end (3) to neck, 2¾ inches; diameter of base (4) of cone-shaped proximal end 1⅛ inches; pounding base (1) flares slightly and is slightly convex; surface of pounder smooth. *c*, talo mixer (*yeu*) of *ngangie* wood (C8051): weight 3⅜ pounds, length 2 feet 4 inches, diameter of base (1) 3 inches, diameter of neck (2) 1 inch; length of first cone of proximal end from point (3) to base (4), 1⅜ inches; length from base of first cone (4) to base (2) of second truncated cone 1½ inches; distal end of mixer flares out and pounding surface is slightly convex. *d*, variant lugs of wooden bowls: 1, top view of left lug, 2 inches broad, 1 inch wide, and 1¾ inches deep at bowl rim; hole, ½ inch in diameter, runs through lug, by which bowl is suspended; 2, 3, top and side views of right lug of same bowl; lug, 1¾ inches wide and 1½ inches thick, carved in conventional phallic symbol 3 inches long. *e*, small food bowl (*kumete*) of *puapua* wood (C8139): greatest diameter 14¾ inches, least diameter 13 inches; thickness of sides at rim ranges from ¾ inch to 1 inch; depth of bowl 4½ inches; lugs plain, 2 inches long and 1 inch in diameter; bottom flat.

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Bowl Name	Longest Diameter	Shortest Diameter	Depth	Remarks
831 —(1)	22"	15½"	7"	No lugs.
—(2) 412	17"	11"	4"	Right lug plain, bored with hole to facilitate hanging. Left lug conventional phallic symbol. (See fig. 13,*d*).
Pilato	6' 7"	2'	12¼"	Each lug 9" long and carved into realistic phallus. Bowl holds 1000 talo corms. Two food mixers accompanying this bowl are of ngangie wood, each 23½" long and 2½" diameter at pounding base.
Palemaimua	4' 2"	1' 9"	12"	Lugs plain, 11½" long and 3" diameter in cross section. Bottom shaped like a turtle back (tua wonu) and propped with stones when in use. Holds 400 corms.
Elia	6' 4"	1' 3"	10¾"	Lugs plain, 11" long, 4" by 2" in cross section. Turtle-backed. Holds 1000 corms.

252 Large coconut shells in which to cook talo are set aside whenever they
415 are available. The cook always tells a person about to open a large coconut to crack it with care and put aside the shell when he has drunk the liquid and scooped out the flesh. Shells are thrown away after being used once as cooking utensils.

PLAITING

285 Plaited articles of coconut leaf or pandanus material are still in common use in Pukapuka. Among these articles are plaited roof sheets and wall screens, floor and sleeping mats, and articles used for transporting, storing, and serving foods. Formerly plaited articles were used also for everyday and ceremonial dress.

In the following brief description of Pukapukan plaited articles, the terminology used is that established by Buck (27, pp. 164-168).

PANDANUS MATERIAL

285 Pandanus trees are not cultivated to provide material for mat making.
314 Plaiting material prepared from the leaves (*lau*) of the *wula* variety is termed *lito*, and from the *yulu* variety, *lauwilu*.

The method of preparing *lito* material is as follows:

314

372 A woman collects green pandanus leaves from trees in the reserves and brings them back to the village. While the fire she has made of dry coconut midribs and butts is burning, she takes each leaf and slices off (today with a knife, formerly with a sharp

314 shell), the longitudinal ridge (*tua iti*) on its back (*hoa yiyi te tua o te lito*). The back of the leaf is termed *tua*, the front, *aloalo* or *vakevake*. When the fire has burned 372 down to red embers, the worker passes the leaves in bundles of about 10 back and forward over the embers for about 1½ minutes or until the leaves are thoroughly warm (*hoa lala te lito ki langa o te umu*). Some women heat the leaves over the embers before stripping off the back ridge. She next cuts off the narrow ends of the leaves so that the width of each leaf is fairly uniform throughout.

314 The next process is bleaching (*wakamamaala te lito*). The leaves are spread on the ground in the sun, gathered in at sundown each day, and spread again the next day, for several days.

Next the leaf is made smooth (*yoyalo te lito ki te ngaipu*). The worker takes the butt of the leaf in her left hand, the rest of the leaf in the right hand in which she holds a dry half coconut shell. She presses the outer surface of the shell against the leaf surface and draws the leaf through her right hand. This smooths the leaf, which has become curled and twisted in bleaching.

She strips off the spikes of the leaf (*yiyi te mata tala*) by biting a commencement with her teeth at the butt of the leaf, then inserting the thumb nail in the slit, and running it longitudinally down each side of the leaf. She smooths the leaf (*yapini te lito*) a second time by winding it round the fingers of the left hand, back (*tua*) side inward, at the same time stretching the leaf until it is as smooth and wide as possible.

314 The final process is making the leaves into bundles (*pokai*) by winding one leaf on top of another until a flat, round bundle about 12 inches in diameter results. The 285 completed bundle is fastened with a strip of pandanus and the material is now ready for plaiting.

Like *lito*, *lauwila* leaves are first heated over the fire and bleached in the sun. The process then is as follows:

> The spikes are trimmed off (*yiyi loa na mata tala*). Next, each leaf is split transversely and longitudinally. The two leaf strips are soaked in the sea. Each leaf in a bundle of leaves is tied with a single overhand knot to a coconut midrib which is pushed into the sea bottom of shallow water so that the leaves are covered at low tide. After soaking for two to three weeks, both front and back strips of the leaf provide a stiff material (*loubie*) used for mats; the *tua* strips of the leaf, soaked for four weeks or longer, give a soft, flexible material (*hia mata*) used for plaiting mats. When removed from the sea, the leaves are washed in fresh water (*wakamangalo i te yua*). They are then dried in the shade (*hove loa tuna ke pakapaka i lalo o te malu*), and smoothed (*yapini*) by winding around the hand. The leaves are bleached a second time in the sun (*hove loa wakala ke mamala*) and rolled into large bundles (*pokai*).

A third preparation of pandanus leaves, termed *laumala pakapaka*, is easily prepared to provide a strong material for some designs. Dry pandanus leaves are collected from the ground beneath the trees, the spines are removed, and the leaves smoothed and rolled into bundles.

MATS

285 The technical processes in the plaiting of Pukapukan mats correspond exactly to the Samoan technique for plaiting *papa* and *fala* mats (27, pp. 214-
177 221). Plaiting elements are either single (*langa tai*) as in plaiting thick materials or material where a soft finish is desired, or double (*langa lua*) treated singly as in plaiting thin material (*lito*) which is to be sturdy and long-wear-

285 171 ing. In plaiting with a single element, the finished surface has the back of the leaf uppermost. In plaiting with double elements, the two single elements are placed together with the back surfaces (*tua*) outward; when the mat is finished, the back of the leaf shows on both sides.

The free single or double element commencement is known as *kauinga pukapuka* to distinguish it from the double butt commencement for single element plaiting (27, p. 217), which is termed *kauinga pa wenua* (foreign commencement). Informants believed that the double butt commencement commonly used today in hat making and satchel plaiting was introduced from Samoa or from the lower Cook Islands after white contact.

The finishing technique follows the Samoan method (27, pp. 218-220, figs. 116-118). It is impossible to fold in the last dextrals when the right hand top corner is reached, so the worker takes a thin strip of coconut midrib about 6 inches long, points it at one end and makes a longitudinal transverse slit in the other end. The free end of the dextral is inserted in the slit and the midrib is passed back underneath the check strokes, drawing the dextral after it. Both the process and the needle are called *yulu*. The dextral is then cut off flush with the dextrals that have been folded back along the finished edge.

285 Technical terms employed in Pukapukan plaiting are:

Langa, wai: to plait.
Tawenu: pandanus element.
Tawenu patapata: a wide element.
Tawenu liliki: a narrow element.
Langa tai: to plait with single elements.
Langa lua: to plait with double elements.
Tawenu ki lunga, tawenu ki lalo: the element above, the element below, in double element plaiting.
Tawenu: to add elements when working elements have run short and must be lengthened to continue the plaiting.
Kauinga: the commencement corner of the plaiting.
Wakamulinga: the bottom right corner.
Ikiikinga: the top right corner where the finishing process (*ikiiki*) commences.
Wakamulinga no te ikiikinga: the top right, or finishing corner.
Tautawa: the right or left edge of the plaiting.
Ala: the working shed.
Tonga: the term used to describe the number of elements making up the working shed. The shed is made of 5 to 20 elements according to the thickness of the elements and the skill of the worker. One asks: "Ewea to tonga?" ("How many in your shed?") The reply is: "E lualua toku tonga" ("My shed is composed of 20 elements").
Lalotonu: the completed part of the plaiting to the left and below the working edge.
Kopi: to fold an element in making the edge.
Nape, napenape: a plaiting stroke or series of strokes. To plait in check was given as tawenu nape takitai, or tapani tai; to plait in twilled twos, tawenu nape takilua or tapani lua.
Loa, lapalapa: length, breadth of plaiting surface.

285 Lito makakalaka: brittle plaiting material, easily snapped with slight strain.
Panga punipuni: closely plaited mat.
Panga taupupu: uneven rough plaiting.
Panga matalatala: loosely plaited mat.
Yiyinu: even, straight plaiting secured through uniform tension.

In the commencement stages of plaiting, the worker uses her toes to keep elements steady until she has established a firm working edge. The finished portion of large mats is folded under as the work progresses or else kept flat under heavy stone weights (*watu maunga*) so that the working edge may be brought within reach of the hands. Some workers prefer to lay fine plaiting on a smooth board (*papa* or *palepale*). Straight edges, either right or left, are difficult to produce, and a woman's reputation as a plaiter is 555 based on her ability to make them. Of the good plaiter, it is said that she 285 has skilled hands (*lima pateka*), busy hands (*lima tateka*), or quick hands (*lima tovili*). These terms are used in chants by the man who wishes to comment on the plaiting skill of his mistress.

285 The plaiting of large mats is an arduous task. By continuous work a woman can plait a mat 6 feet by 4 feet in about 30 hours.

531 Design is obtained by using alternate elements of *lito* pandanus and *lauwilu pakapaka* pandanus, or by the use of overlaid or through and through elements of red dyed pandanus. The Pukapukan plaiter makes little use of contrasting check and twilled plaiting to make pleasing designs in pandanus work, save in the building-up of a few blocked geometrical designs. The 386 method of preparing red dye and of dyeing (*pani ke kukula*) material for 285 designs is as follows:

> The worker scrapes from the roots of the *nono* plant the dirt, rootlets, and dark brown outer bark. She places a coconut-leaf mat (*lauloua*) on the ground, covers it with *puapua* leaves, and scrapes the roots a second time to remove the dark yellow bark, which falls onto the leaves. Hot ashes from a fire of coconut butts are added to the bark scrapings and the whole well mixed together with the hands. The mixture is placed in a wringer (*tauunga*) of coconut husk fiber and the liquid wrung out into a wooden bowl. The wrung-out bark mixture (*ota*) is placed aside. Strips of *lauhie* pandanus are now passed through the liquid, then rolled on the hand and placed back into the liquid. *Puka* leaves are packed on top of the rolls of pandanus and the wrung-out bark is placed on the leaves. The whole is set aside for 24 hours. The bowl is then opened, each roll of material is passed through the hands to smooth the dye on the strip, and placed back in the bowl. Sea water is poured on the wrung-out bark material which is pressed (*lomi*) and mixed with the water. It is then wrung out for a second time and the rolls resteeped for a second 24 hours. The rolls are finally removed from the dye, smoothed with the hands, placed unrolled on a coconut leaf mat (*polapola*) and allowed to dry in the shade. When dry, the material is ready for use.

285 531 Old Pukapukan designs (*kave*) are shown in figure 14. A group of old women recognized only these designs as definitely old. The Pukapukan worker, however, shows great skill in adapting or inventing new designs. A sampler of designs (C8208) contains 32. The names of some of the newer

285' designs indicate the extent to which the environment furnishes ideas for design: *yiku ika*, fish tail; *uka*, two-ply twisted sennit; *launiu*, coconut leaf;
531 *mangamanga*, spider; *puyipuyi*, tobacco pipe; *polotiko*, house veranda; *kawatau*, sennit anchor line; *malo pula*, spotted malo.

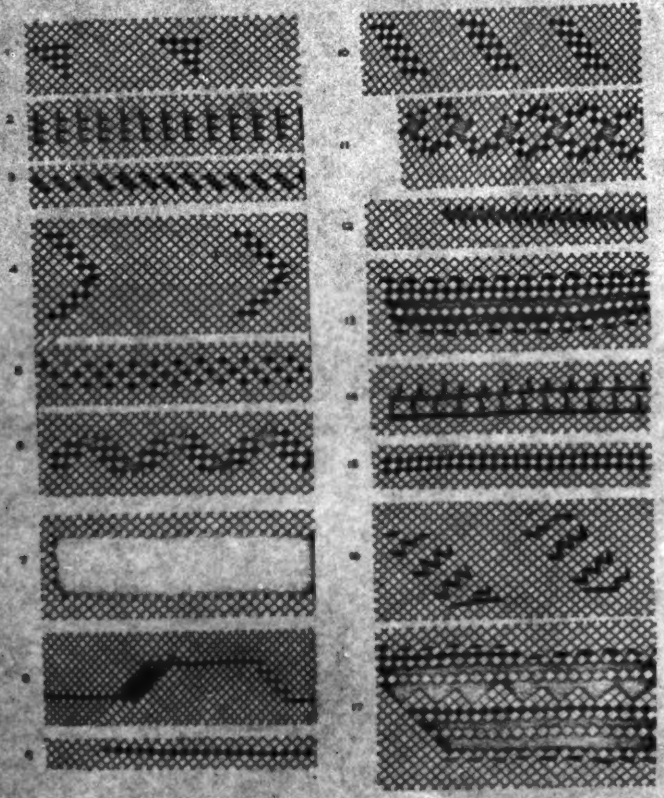


FIGURE 14.—Old Pukapukan pandanus mat designs. Native terminology with available translations: 1, *matatala*, pandanus leaf spines; 2, *te lau wenua wakawike*; 3, *elounga*; 4, *kauono*, shark-skin implement for working pearl shell; 5, *koyi tuila*, flash of lightning; 6, *matuakalou*, variety of sea cucumber; 7, *koyi nuanua*, rainbow stripe; 8, *tue kaue*; 9, *maamoa*, a small blue cigaret-shaped coral growth; 10, *louwuti*, banana leaf; 11, *paiokiole*, diamond-shaped; 12, *molokau*, centipede; 13, *nuanua*, rainbow; 14, *tokewelangi*, stone resting platform; 15, *kouamalo*, five-ply braided sennit malo; 16, *aluhauona*, a bundle of *kauono* implements; 17, *longa pini*.

285 352 Sleeping and floor mats are made of all three pandanus materials in various sizes for children and adults. The name of the material is added to the general name for a mat (*panga*) to distinguish the various types. Pukapukan mats in Bishop Museum are:

NAME	SPECIMEN NUMBER	MATERIAL	SIZE	WEFTS TO INCH	USE
Panga laupua	C8070	lauwilu	3'5" square	6	Crawling mat for child
Panga lauwilu ava	C8071	lauwilu	1'11" × 1'6"	5	Mat on which newborn infant is laid
Epaepa	C8074	lauwilu	5' × 6'6"	5	Durable under-mat for sleeping
Panga lito	C8114	lito	5'3" × 4'7"	5	Floor mat
Panga lito	C8122	lito	5'8" × 3'7"	5	Floor mat
Panga lauwala pakapaka	C8123	lauwala pakapaka	4'10" × 4'	3	Coarse foundation mat placed under epaepa for sleeping
Panga kanoni (mixed) lauwilu ma lito	C8106	lauwilu and lito	5'1" × 3'3"	6	Durable sleeping mat
Panga kie wete	C8121	kie wete	5'4" × 4'	6	Soft mat used to cover body when sleeping

285 171 All the above mats have the exposed sinistral finish described by Buck (27, fig. 118,*a*), except the last which presents two interesting variations in the fundamental plaiting technique:

> It is made of single elements to obtain a soft surface, but in order to bind the edges securely, the Samoan fine mat technique of a five-weft braid finish is used in defining the lower border. The commencement edge on the reverse side of the mat follows the method described by Buck (27, fig.161) and the continuation is the turned back fringe described by Buck (27, fig. 162 right). In the Pukapukan mat the dropped sinistrals are cut off flush with the lower border. The upper, finishing edge follows the Samoan method (27, figs.163,164) with the exceptions that the Pukapukan mat has a five-weft braid finish; the fringe ends produced by the projecting sinistrals and dextrals are cut off flush with the border; the right upper corner is not braided into a tail but the last three working dextrals are roughly interlocked by carrying the third working dextral from the end over the corner of the mat and pushing it under one sinistral, then with a forward turn, pushing it under two dextrals and cutting the ends off flush with the edge. The last two working dextrals from the end are turned back at the edge and pushed underneath the third dextral where it passes to the other side of the mat.

285 531 All the mats have overlaid or through and through designs of the customary red-dyed pandanus material. Most of the designs are old but several are obviously modern, for example the turtle (*wonu*) and the house side (*talawale*) designs. The mats are more heavily laden with design than is usual because the plaiters felt that many designs were appropriate for what they knew would be museum pieces.

285 The use of plaited mat material for canoe sails is mentioned on page 181.
531 Informants stated that formerly four light mats were sewn together (*tui*) with strips of pandanus and a fish bone needle to make a sort of rough mosquito net (*ana*).

285 Malos made of soft pandanus *kie* material (*malo kie*) were formerly worn by the men for dress occasions. They were worn with the malo of
292 sennit (*malo kawa*) for wrestling contests and fighting (pl. 3, *c*). Three malos in the Bernice P. Bishop Museum collection are:

> Malo 3501. 11 feet 5 inches long, 6½ inches wide, fringe on upper and lower edges 1¾ inches deep. Wefts 12 to the inch. *Paiokiole* pattern. The technique follows the Samoan fine mat style with a lower border commencement of a three-weft braid, the dextral and sinistral elements functioning as fringe (pl. 4, *B*). The top border is a three-weft braid finish, the dextrals and sinistrals again forming a fringe. The working dextrals on the right upper corner are secured with two overhand knots and are not braided. (See 27, figs. 161, 163, 164.)
>
> Malo B3662. 14 feet 4 inches long, 7 inches wide, upper and lower fringe 1½ inches deep. Wefts 12 to the inch. *Paiokiole* pattern. The technique varies slightly from the previous malo in that the three-weft braid fixations are worked on the reverse side, so that the garment was probably turned during plaiting. This is further evidenced by the fact that the knotted tail finish is formed on the right lower corner. Not only the lower and upper edges, but the right side as well, have the braid fixation and fringes. It is possible that the left side was plaited in a similar fashion, making the similarity to the Samoan fine mat clear, but the left side is now undefined and ragged, perhaps eaten away by rats.
>
> 285 Malo C8069. 6 feet 8 inches long, 10½ inches wide, upper and lower fringes about ⅝ inch deep. Wefts 8 to the inch. *Paiokiole* pattern. This malo (pl. 4, *C*) was made
> 292 as a sampler which explains its shortness. The material is soft and pliable, but the modern workmanship is rough compared with the two old malos just described; these
> 178 malos are no longer made in Pukapuka today and thus the women are not very skilled at the work. The top and bottom edges are fixed by a five-weft braid, the left and right edges are given the customary mat turn. The right upper corner finishing dextrals are knotted.

The design material in all three malos is not overlaid but forms plaiting elements. A fourth malo examined in the field corresponded in all particulars to the first two malos:

> 285 It was 12 feet 7 inches long and 8 inches wide and had the *paiokiole* design. An informant stated that this malo was one of several made by his mother and given him
> 292 when he attained sociological adulthood (*wakatane*) about 30 years ago. He suggested that formerly some malos were made 5 fathoms or more long, especially those that might be needed for fighting. I neglected to verify this statement, but if true it means that a malo of such length wound round the waist would have formed valuable defensive equipment against spear thrusts.

Edge-Partington (8, 2d ser., pl. 38, no. 4) figures a typical Pukapukan malo in the British Museum, 8 feet long, 10 inches wide, and with the usual *paiokiole* design.

SATCHELS, BELTS, PILLOWS

285 177 415 Satchels of pandanus are used today in Pukapuka to carry to church on Sunday a Bible and note paper with which the sermon is followed and text noted down. The making of these satchels has been introduced from the lower Cook Islands, and the craft conforms in all particulars to satchel techniques described for Manihiki and Aitutaki (29, pp. 127-131; 26, pp. 190-202). Coiled baskets are sometimes made, but the technique has been recently introduced from Samoa by the wife of the resident agent.

285 415 A two-cornered pandanus double, or envelope, satchel called *tuluma* is thought by informants to be old. Small *tuluma* such as the one described below were used for storing fishhooks and pearl-shell ornaments. They were known as *pa tuluma,* and a specially valuable pearl-shell hook was known as *muli tuluma,* (the precious object) after the bottom of the *tuluma* receptacle. Larger *tuluma* were made for the storage of pandanus and sennit malos. The *pa tuluma* (C8120) is made of *lauwala pakapaka* and *lito* materials:

The inner satchel is 9½ inches long, 7½ inches deep and 1 inch wide. The outer satchel is 9½ inches long, 6¼ inches deep and 1½ inches wide. The plaiting is coarse, wefts being 3 to the inch. The plaiting is in check, with double elements, alternate sets of elements being dried pandanus and *lito.* The basket is plaited like a strip of mat, the ends brought together and the free marginal wefts plaited to make a cuff plaited in sections to the required depth. The sides are brought together to compress the bottom opening longitudinally; the bottom is closed by check plaiting. The free ends of the finishing wefts are pushed (*yolo*) under three or more elements in the plaiting on the outside of the satchel, pulled tight, and the exposed ends cut off flush with crossing elements. The rim is finished with a level edge by the downward turn of the rim elements.

285 846 Abdominal belt supports worn by women after confinement are made of plaited pandanus:

Belt C8072 (*pale manava*) is 1 foot 11 inches long, 4 inches wide. Strings by which the belt is fastened at the back range from 8½ to 10½ inches long. Wefts 6 to the inch. Plaiting is by the simple mat technique in double element check, with *lauwala pakapaka* and *lito* used as crossing elements to form a small diamond-shaped design. When the belt length is finished, material for the strings is pushed through under seven to nine crossing elements at each corner. Four strings are thus attached to each corner and braided into a four-ply braid, finished off with a single overhand knot.

Belt C8073 (*pale tata*) is 2 feet long, 3 inches wide. Strings range from 8 to 13½ inches long. Wefts 4 to the inch. Plaiting is with double element check of *lauwala pakapaka* and *lito,* forming a simple diamond design. Three string elements are pushed under crossing elements at each corner and braided into a three-ply braid, finished with a single overhand knot. Both belts are shorter than they would be if intended for use by Pukapukan women.

285 573 Informant stated that formerly a pillow or headrest (*ulunga loukama*) was made from plaited pandanus material. As described, the pillow was apparently cylindrical in shape, 12 inches long and 6 inches in diameter at

285 313 either end. A hollow cylinder was made and stuffed with banana leaves (*lau meika*) or coconut husk fiber (*lau kawa*). The technique by which this pillow was made has been forgotten, for no woman professed herself able to make the article. Yielding to my suggestion that someone experiment, two pillows were made, but neither conforms to informants' description.

Pillow C8482 has a four-cornered cover 13½ inches long, 6 inches wide and 2½ inches thick. It is plaited in single element check of *lito* material. Wefts 3 to the inch. The technique is that of ordinary mat plaiting, plaited in the modern way around a wooden block. The oblong cover is stuffed with coconut fiber and closed by passing finishing wefts under adjacent plaited elements.

Pillow C8483 is also four-cornered, 11 inches long, 5 inches deep, and 2½ inches thick. It is plaited in single element check of mixed *lauwala pukapuka* and *lito*. Wefts 2 to the inch. The cover is stuffed with banana leaves.

285 291 177 Hats of European style are made of pandanus materials or prepared coconut fiber. They are of the Panama type, either plain or decorated by change of plaiting stroke or by overlaid strips of red-dyed materials. They are worn as protection against sun and as part of the church-going costume. No head covering or eyeshade of pandanus or coconut leaf was made in former times.

COCONUT-LEAF ARTICLES

MATS AND SHEETS

285 [171] The technique of making the Pukapukan coconut roof sheets, roof ridging sheets, and wall screens follows exactly the Samoan technique (27, pp. 169, 172, 176; cf. 26, pp. 7, 24).

Pukapukan coconut leaf mats in Bernice P. Bishop Museum are described in the list given on page 136.

BASKETS

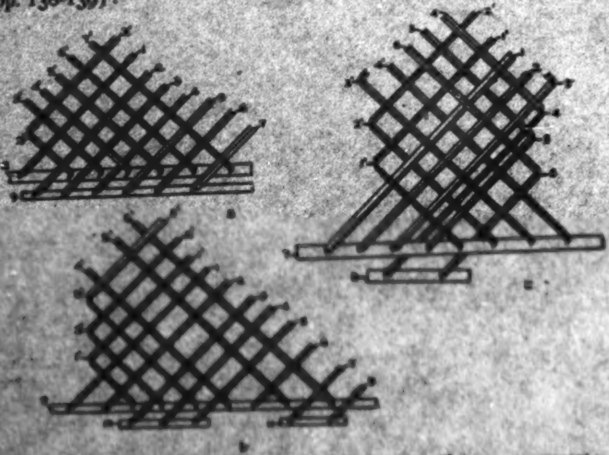
Plaited coconut baskets (generic name, *ole*) are made with two different commencements—the twisted, two-strip commencement (29, p. 107, fig. 25) and the Pukapukan turned-back, two-strip commencement.

In the twisted two-strip commencement, the leaflets of each strip, following their natural direction, are twisted over the leaflets immediately in front. Two strips carrying leaflets are placed together, the sinistral-bearing strip above the other strip. To make the plaiting close and neat, one or more extra leaflets are added as extra wefts by plaiting the butt end between two midrib strips forming the commencement. This is the two-strip commencement with extra wefts which corresponds to the Tongarevan technique (28, pp. 127,133, figs. 14,17). The plaiting of the body of the baskets is in twill. At the bottom are a few rows of check, the size of the basket being made smaller by superimposing two alternate dextrals or two alternate sinistrals and plaiting the two elements as a single element. The baskets are finished with a braid.

Name	Number	Plaiting Technique			Use
		Commencement	Body of Mat	Finishing	
Pola	C8207	whole midrib (see 29, p. 105, fig. 22)	13 rows twilled two's	three-ply braid with free tail tucked under crossing wefts	floor mat or rough wall screen
Takapau langa tai	C8085	two strip (see 29, p. 106, fig. 24)	extra wefts added to make close; plaited for 2 feet with alternate rows of twill and check, followed by 8 rows of check	three-ply braid, with free end tucked under crossing wefts	floor mat or rough wall screen
Takapau langa lua	C8206	pairs of right and left midrib strips (itu launiu) in check with single closed leaflet wefts (see 27, p. 210, fig. 111)		three-ply braid, with free knotted ends pushed under crossing wefts	floor mat or rough screen
Wakatupu	C8076	turned back two strip (fig. 15, a), continuous upper strip containing 11 natural dextrals, lower strip containing 15 dextrals of which first 2 from left function as dextrals, 3-13 turned back to form sinistrals	13 rows of check	three-ply braid, free tail fastened with knot	platter for storage or transport of food
Polapola fika	C8150	turned back two strip (fig. 15,b), lower strip containing 15 natural dextrals, of which 1 and 2 act as dextrals; 3, 4, 5, turned back to engage dextrals of first superimposed upper strip of 3 dextrals; 7 and 9 form sinistrals engaging 8 and 10; 11, 12, 13 form sinistrals engaging second upper section of 3 dextrals; 14 a dextral, 15 a sinistral	8 rows of check	three-ply braid, with free end tucked under crossing wefts	container for fish
Polapola	C8077	same as for polapola fika	10 rows of check	braided tail	placed on ground to hold talo corms when preparing for cooking

285 Baskets made with the Pukapukan turned-back, two-strip commencement
915 (fig. 15,*a,b,c*) are called generically *kete*. They are used for transporting talo corms, coconuts, crabs, and the like. Small baskets with one or two points are sometimes used to hold talo pudding (*olo*), but they are generally used as shellfish and crabbing baskets. The plaiting technique is the same as for the Manihiki *pite* pointed receptacles (29, p. 117, fig. 33).

[171] Pukapukan baskets in Bernice P. Bishop Museum are described in the list (pp. 138-139):



285 FIGURE 15.—Coconut-leaf mat. *a*, turned-back two-strip commencement: midrib strip (8) with leaflets naturally directed toward right; leaving out first leaflet (1), remaining leaflets on strip turn back to function as sinistrals (2', 3', 4', 5', 6', 7'); sinistrals engage with naturally inclined leaflets of second strip (9) which function as natural dextrals (2, 3, 4, 5, 6, 7). *b*, discontinuous two-strip commencement: lower continuous leaflet strip (9) carries leaflets naturally directed toward right; leaving out dextral leaflets 1 and 2, leaflets 1', 2', 3', 4' are turned back to function as sinistrals, engaging with naturally inclined dextral leaflets (3, 4, 5) carried by second strip (10); leaflet 6, of first strip (9) keeps its natural direction and acts as a dextral; the next two leaflets of this strip (5', 6') bend back to act as sinistrals engaging previous dextrals; leaflets (7, 8) of third strip (11) act as natural dextrals and will engage with turned-back sinistrals of first strip; course of plaiting continued by additional strips and turning back of naturally inclined leaflets to left to act as sinistrals. *c*, variation of turned-back two-strip commencement: midrib strip (7) carries eight leaflets naturally inclined to right; to establish stroke four leaflets (1, 2, 3, 5) function as natural dextrals; they engage in plaiting stroke remaining four leaflets on strip which are bent back to act as sinistrals (1', 2', 3', 4'); additional strip (8), carrying two natural dextrals (4, 6), placed under first strip (7), and two extra dextrals engage with turned-back sinistrals of first, or upper strip (7); when stroke has been established, edges are formed by giving a half turn to sinistrals at left edge so that free sinistrals are converted back into functioning dextrals; for right edge, free dextrals given a half turn to left and continue to function as sinistrals in plaiting.

985-
410-

NAME	NUMBER	SIZE	PLATING TECHNIQUE			USE
			COMMENCEMENT	BODY OF BASKET	FINISHING	
Kete ava niu	C8202 (2 specimens)	12" long, 14" deep, 4" wide; 10" long, 12" deep, 3" wide	turned-back, two-strip	check	single-tail braid, free end knotted close to right side bottom on outside	used for carrying coconuts
Kete ava unga	C8154	12" long, 14" deep, 3" wide	turned-back, two-strip	check	single-tail	used for carrying crabs or coconuts
Angapilo mulitai (pointed, triangular)	C8079	12" deep, 10" rim diameter	plaiting technique same as for Manihiki pite pointed receptacle (29, p. 117, fig. 33)		all sinistrals braided together and knotted; same for dextrals	shell fishing and crabbing basket; occasionally used for talo pudding (olo)
Angapilo mulitai	C8186	10" deep, 6" rim diameter	similar to C8079		same as C8079	same as C8079
Angapilo mulilua (two points)	C8078	9½" deep, 6" rim diameter	same as C8079; open leaf check corners made by turning normal lean of sinistrals to right so when basket is turned over to plait opposite side, sinistrals function as dextrals and dextrals as sinistrals		ends braided, passed over and around commencement strip, knotted above strip so that tail is made fast to prevent basket falling open when full	used for shellfish
Angapilo mulilua	C8169	7" deep, 7" rim diameter	single strip of leaflets with each leaflet split longitudinally, left half turned back as sinistral, right half acts as dextral; other split leaflets added to make close plaiting	check	all sinistrals braided into short tail and knotted; dextrals braided and knotted over end of commencement strip	used for shellfish
Angapilo wai kave (basket made with a handle)	C8196	7" long, 5" deep	4 strips of midrib each carrying 2 leaflets; open leaf check similar to oini basket of Aitutaki (26, p. 168) and to oini basket of Tahiti (16, p. 22, fig. 2), whence it may have been introduced		2 dextrals and 2 sinistrals on each side braided into four-ply braid. Knot of one pushed through braid of other tail, thus forming handle	used only by children as a fishing basket for yellow mullet ([illegible])

286-
415-

NAME	NUMBER	SIZE	PLAITING TECHNIQUE			USE
			COMMENCEMENT	BODY OF BASKET	FINISHING	
Ola wali lua	C8025	width, bottom 4½", top 5½"; depth, 7½"	twisted two-strip	twill with few rows of check at bottom	two-course braid, free tails tucked under crossing elements inside	child's fishing basket
Ola waliwali	C8177	width, bottom 6½", top 8"; depth, 5½"	twisted two-strip	twilled two's with no extra commencement leaflets	concealed double tail, free tail tucked under crossing wefts inside	child's basket used in groping for fish
Ola lia	C8149	width, bottom 10", top 19"; depth, 15"	twisted two-strip	begun with 3 rows of twilled four's and two's followed by 4 rows of twilled two's, then alternate dextrals and sinistrals brought together and plaited as single elements in 5 rows of check	two-tail finish (26, p. 135, fig. 18), free ends tucked under crossing wefts on inside	fisherman's basket used for bait or fish-line
Ola malolo	C8073	width, bottom 16", top 30"; depth, 13"	twisted two-strip	twilled two's	two-tail finish, free ends pushed through to inside then to outside	used to hold flying-fish catch
Ola wali aa	C8162	26" long; 21" wide at greatest diameter	twisted two-strip	4 rows twill, 6 rows check, 4 rows twill, 5 rows check, 2 rows twill. Top shaped by plaiting 2 elements as single element in 13 rows of check	two-braid, ends knotted together on outside to form rough handle	used to block mouths of fish weirs
Kete [illegible]	C8151	18" long, 12" deep, 6" wide at top	discontinuous strip, lower strip containing 23 leaflets, engaging with 7 discontinuous strips of 2 or 3 leaflets each (fig. 13,b).	check	two-braided tail, free end tucked under crossing wefts at one side	used for holding talo

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[223]
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A small receptacle or container of coconut leaf is sometimes made to transport young birds from the reserve islets to Wale. The containers function also as bird cages.

Receptacle C8144 (*pupu manu*) is made from a length of coconut midrib, 14 inches long and carrying 19 leaflets, cut from the tip end of a coconut leaf. The plaiter works with the midrib base uppermost, and starting from either end plaits the leaflets in a close check to form a cone 20 inches long, base diameter 4 inches (fig. 16). The base is finished with a three-ply braid, and the two free ends of the braid are knotted together. When a bird is placed inside the cone, the base is fastened together by interlacing a leaflet from side to side through and under the base braiding. If the receptacle is used to transport flowers or plants from the islets, the cone-shaped container is plaited round the objects.

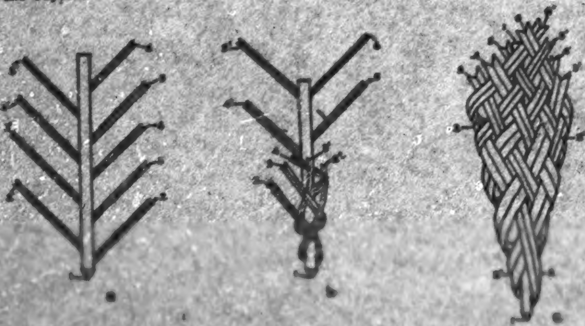

FIGURE 16.—Commencement of cone-shaped receptacle (*pupu manu*). *a*, section of midrib (1), carrying nine leaflets (2, 3, 4, 5, 6, 2', 3', 4', 5'): broad base of midrib uppermost. *b*, commencement of plaiting: leaflet 2' carries across from left to right and engages leaflets 2, 3, carried across to left; leaflet 3' carries to right and engages leaflets 2, 3, 4: process continues, alternately bending left side leaflets to right, right side leaflets to left, plaiting leaflets in check. *c*, result after several plaiting strokes: leaflet 2' has engaged leaflets 2, 3, 4, 5, 6 and has passed around under cone; similarly, leaflet 2 has engaged leaflets 2', 3', 4', 5' and passed to other side of cone; other leaflets, those from left side functioning as dextrals, those from right side as sinistrals, plaited together in open leaf check; only six leaflets on each side figured, but process continued with all leaflets on midrib base; when cone is large enough, free ends of leaflets braided in three-ply braid, and two ends of braid knotted together, forming finishing edge for mouth of receptacle.

Platters (*laulau*) on which food is served are characterized by a natural concavity formed by the dull side of the coconut leaflets when plaited or folded together. All pudding platters for the talo dish called *olo* have the braided finishing edge; all fish platters have the overhand knot finish; all platters for the talo dish called *loloi* have the non-braided, double-knot finish. All platters are approximately 18 inches wide and 9 to 12 inches deep.

Platter C8[illegible], *laulau* [illegible] *olo*, is used for serving the talo pudding (*olo*). The platter has the Pukapukan turned-back, two-strip commencement. It is plaited in open

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half check for 4 rows. The dextrals are gathered together and braided in three-ply and finished with a knot; the sinistrals are similarly treated.

Platter Olulu ([illegible]) is a platter for serving fish. It has a single-strip commencement in which four leaflets from the left function as dextrals and four leaflets on the right are turned back to function as sinistrals. Two leaflets carried on one strip are added to make the plaiting elements. The plait is in check for a depth of 10 inches. The dextrals and sinistrals are gathered together on one side and tied in a double overhand knot with the gathered wefts from the other side.

Platter Olulu ([illegible]) is a platter for serving the dish called [illegible]. It has the turned-back, two-strip commencement, and the body of the platter is plaited in open half check for a depth of 12 inches. In finishing the edge, all the dextrals are carried across to the right side and knotted. Similarly, the sinistrals are all carried across to the left side and knotted.

KILTS

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Formerly the everyday dress of the Pukapukan men was the coconut-leaf kilt (*wale [illegible]*), made by ordinary plaiting technique. It was worn during working hours and thrown away when soiled. The following kilt is typical:

Kilt [illegible] (*wale [illegible]*) is made from a strip of midrib 13½ inches long, carrying 10 leaflets (pl. 3,B). Each of the six leaflets in the middle of the strip is split into four lengths longitudinally. These 24 elements are plaited in a close check to a depth of 10½ inches, width 7 inches. What is really a small compact sheet is narrowed by plaiting two elements as one for five rows and then four elements as one for one row, the ends being gathered together and braided in a four-ply tail of which each ply is composed of four elements. The tail is 12½ inches long and finished with an overhand knot. The sheet material has a natural concavity on the dull side of the leaflets. The two end leaflets on either end of the commencement strip are each split into two longitudinally and braided in a four-ply tail, finished with an overhand knot, 24 inches long on one side, 20 inches long on the other. The commencement strip is cleaned with the teeth and softened before wearing.

FANS

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Both coconut leaf and pandanus fans (*ili*) are made by the women and used on all occasions by men and women. (See pl. 3, *A*.) A square fan made of pandanus is similar to a type of Samoan fan figured by Buck (27, p. 633, and pl. LV, *B*, 4), but the style is said to be old in Pukapuka.

This fan (Olupo), [illegible], is plaited in check with wefts of fibre and [illegible] *pulapula* (pl.3,A,1). It is 7 inches square and mounted on a handle of pandanus wood 14 inches long and ⅝ inch wide. The commencement of the plaiting is by the ordinary pandanus mat technique. The left edge and the bottom edge are plaited to a depth corresponding to half the size of the completed fan. At the working edge a shed is made the width of the fan. A long strip of fibre [illegible], the width of the handle, is laid in this shed, passing underneath and back over the last element of the shed. The handle, which has been whittled down to half its thickness, is laid in the shed on top of the fibre. The strip of fibre is brought back and laid on top of the handle, the free ends of the fibre strip projecting beyond the proximal end of the handle. Plaiting continues beyond the handle which is thus gripped by the crossing wefts, as alternate elements forming the shed are laid down and taken up. The fan is then turned so that the previous left edge is at the bottom of the plaiting and the handle projects to the left.

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The new functioning left edge of the fan is now plaited and the top edge finished off with the customary mat finishing technique (*ikiikinga*), the projecting sinistrals being cut off flush with the top. The dextrals are pushed underneath crossing wefts and cut off close to the right edge of the fan. The free ends of the *lite* strip are tied round the handle with a double overhand knot to prevent the fan from coming off the handle when in use.

Coconut-leaf fans of characteristic Polynesian shape, base of triangle at the top, apex at the bottom, are made either with midribs to which the leaflets are attached or else with leaflets stripped from the midrib.

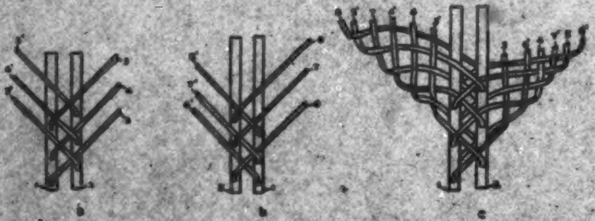

FIGURE 17.—Commencement of coconut-leaf fan (*ili yakayaka*). *a*, midrib strips (1, 2) shown with only three upper leaflets on each to avoid confusion: leaflet 3 carried across to opposite side, opposing leaflet 3′ being carried across to its opposite side on top of leaflet 3; leaflet 4 carried across, and right leaflet 4′ similarly carried across, passing on top of leaflet 4; similarly with leaflets 5, 5′; each leaflet crosses alternately until all are crossed. *b*, under leaflets of midrib cross as in *a*: midribs turned over so that left midrib (1) is to right and right midrib (2) is to left; each leaflet crosses alternately from either side as in *a*; leaflet 6, which is under leaflet corresponding to 3, crosses over leaflet 6′, corresponding to leaflet 3′. *c*, establishment of plaiting stroke: leaflet 3 from midrib 1, carried across and given forward half turn to engage with leaflet 6′ which has come across from underneath and is itself given a forward half turn to engage with leaflet 4 from midrib 1; similarly with leaflets 7′, 8′ and leaflet 5; on other side, leaflet 3′ engages with leaflet 6, leaflets 4′, 5′ with leaflets 7, 8 from opposite side; plaiting continued by carrying across all leaflets on either midrib to opposite side and plaiting in closed leaf check; when body of plaiting is large enough, top edge finishes with ordinary pandanus-mat finishing technique.

Fan C8174 (*ili yakayaka*) is made from two pieces of midrib cut from the tip end of the coconut leaf (pl.3,A,3). Each midrib is 13 inches long. The left midrib has 9 leaflets on one side, 8 on the other; the right midrib has 9 leaflets on one side, 7 on the other. In the finished fan, the butt ends of the midribs form the handle. Commencement and establishment of plaiting stroke are shown in figure 17. The fan is plaited in closed leaf check. At the top, each closed leaf is split into two and the finishing edge is plaited with five rows of check. Commencing with the top left corner, the edge is finished with the common mat technique (*ikiikinga*), the projecting sinistrals cut off; the free ends of the dextrals are cut off on the line where each weft was previously split into two. The fan is neat and compact, the *ikiikinga* finishing technique providing a strong, slightly curved finishing edge. This fan is 16½ inches long, 15½ inches wide across the top.

The same technique is employed with individual leaflets. The required number of leaflets, depending on the size of the fan, are stripped from the tip of the midrib and

285 290 divided into two bundles with the tips of the leaflets lying in the same direction. The butt ends of the two bundles are laid together and roughly fastened with a leaflet. Commencing about 4 inches from the proximal ends of the butt leaf bundles, leaflet 1 from the left bundle is passed to the right, leaflet 1 from the right bundle is passed to the left over leaflet 1 of the left bundle. This process is continued until all the leaflets have been crossed over. The leaflets are then plaited in closed leaf check and the finishing edge made with the *ikiikinga* technique. The two bundles containing the butt ends of the leaves are bound together with transverse turns of sennit, the completed lashing having buried commencement and finishing ends (pl. 3,*A*,2). The technique is the same as that of the midrib-handle fan shown in figure 17 save that the handle is composed of the butt ends of the leaflets bound together.

Fan C8189 (*ili yueyue*) is a smaller fan made by the same technique. It commences with check plaiting, goes on to twilled twos, twilled threes, and finishes with rows of check. The fan is 13½ inches long, 6 inches wide at the top, which is straight instead of curved as with the other two fans. The handle is bound with nine turns of common string.

CORDAGE

283 Various materials are used as cords. Readily obtainable materials that serve a need of the moment are coconut leaflets and strips of fiber from the coconut midrib or from dried *puluka* stalks. These are used without preparation and discarded when no longer necessary. More permanent cordage is made from the husks of the coconut and from bark of the *wua* tree. *Wao*[3] fiber is used for fishlines where quality is more important than quantity; coconut fiber is used for every variety of cord where strength and [301] quantity are desired. Human hair is occasionally used to make short cords by which valuable ornaments (*yana*) are hung from the neck.

Wao fiber is prepared for the finer fishlines as follows:

Bark is peeled (*wowole*) by a man from a small branch or sapling (*yuli*) of the *wua* tree and rolled up into a bundle (*pokai*). A woman proceeds with the task. She puts the bark in a wooden bowl and covers it with fresh water. Then she places a strip of bark on a flat surface, a special board or the blade of a canoe paddle, with the inner surface of the bark lying downward on the board, and scrapes (*vala*) away the green outer bark with a shell until only the white inner bark is left. When all the strips of bark have been scraped, they are braided together at the ends by the man or woman to make a bundle of strips termed *titi wao*. This *titi* is hung in the sun for about two weeks to bleach. At the end of this time, each strip is rubbed with a half coconut shell until it is soft and pliable. Each strip is then shredded (*vaylouyi*) into narrow widths (*yaka*) which are ready to be made into fishline.

283 412 Appliances used in *wao* bark preparation are:

Scraping board C8047 (*papa vala wao*) is a board of *puapua* wood, 26 inches long, 4 inches wide, and 1¼ inches thick. The scraping surface has a slight transverse convexity.

Shell scraper C8046 (*koti*) is a highly polished and smoothed black-lipped pearl shell; greatest length 3¼ inches, greatest width 3¼ inches, thickness at the hinge ⅜ inch, thickness at the lip 1/16 inch.

283 Hank of fiber C8132 (*titi wao*) is a semi-bleached hank of prepared *wao* bark from which line may be made. Thirty-one strips of bark ranging in length from 3 feet to 6

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[3] The tree is *wua*; fiber prepared from its bark, *wao*.

feet 6 inches are braided together at one end. Braiding commences with three strips of bark. After braiding for 2½ inches, one strip (ply) is dropped and another added. After two more twists of the braiding, a second strip is dropped and another added to take its place. The braiding continues thus, dropping one and adding another strip until 28 plies are dropped. The braiding of the final three plies is stoppered by tying the two outer plies together with the first part of a reef knot.

Sennit fiber (*laukawa*) is prepared by macerating either the green or mature husk of the coconut in salt water. The coconut named *niu pulu venu* is preferred for fiber, but any nut may be used if this is not available.

The husk is either buried in the wet sand on the beach or else placed in a basket which is submerged in shallow water. The husk is left until the interfibrous material is decayed (*papala*). One to two months is a usual time, but burial up to six months or more does not harm the fibers. On removal from the salt water, the husk is pounded (*tuki*) on the beach to separate the decayed matter from the fibers. Any wood or stone serves as an anvil and a piece of wood as a mallet. After being thoroughly beaten, the fiber is washed in the sea and dried in the sun.

Before cordage is made, the bundle of fibers (*laukawa*) is sorted (*unu*) and the short, fluffy, thin fibers (*wunga*) are thrown away. The remaining fibers (*pulu kawa*) are separated into two types: long single fibers are picked out to be made into cordage termed *uwo* used for especially strong fishlines and canoe lashings; the remaining fibers are divided into hanks (*amo*) of 10 to 15 fibers each, twisted at one end to hold the fibers together.

TWISTING

Twisted cords are made of *uwo* and coconut fibers. A fine two-ply twist of *uwo* termed *aiaala* is made for the lashings of composite pearl-shell fishhooks. The operation is known as *wilo:*

The worker takes two single threads of *uwo* and rolls them separately on the sole of the foot (*papa vae*) with the palm of the hand (*papa lima*). At the finish of each forward and backward rub a slight twist is given to the thread by a sideways motion of the hand. Two twisted threads are laid together and twisted into a single cord by a forward and backward movement of the hand. The plies are termed *tauvenu*. Strands are added to the shortening ply by direct overlapping.

Thicker cords varying from 1 to 3 mm in diameter are made from *uwo* fiber in two- or three-ply twist, and used as snoods, secondary snoods, and bonito lines.

Two-ply sennit (*uka yae*) or three-ply sennit (*uka tautolu*) is used exclusively in lashing together rafters and purlins in the house framework and for lashing roof sheets to the rafters. Separate strands (*amo*) are twisted separately on the sole of the foot and then twisted together. Strands are added by direct overlapping on the shortening ply. Two-ply *uka* is about 3 mm thick, three-ply about 5 mm.

BRAIDING

The material used for braided cords is invariably sennit fiber. This braiding is either three-ply for fishlines or lashing lines, or five-ply for

283 sennit malos. Four-ply braid is not used for cordage. Braided sennit is termed *kawa*. Sennit made from the selected, long pieces of fiber is *kawa unu;* from unselected strands (*amo*), *kawa wili*. Ordinary three-ply braiding which produces a fairly long, loose braid is termed *kawa wili yaeyae* and is used for ordinary anchor line (*kawatau*) or fishline. Careful three-ply braiding, in which each twist of the plies is pulled very tight to form a close, round braid, is termed *kawa wili tuki;* when made of the long strands (*unu*), it produces especially strong braid used for strong fishlines and canoe lashings.

Braiding is always done toward the body. The commencement end of the plies is knotted and tied to a stake set in the ground before the worker or else coiled round the toe (*iko ki te mangamanga vae*). In three-ply braid, the outside plies are brought over the middle ply in succession, each ply taking in turn the middle position. A shortening or thinning ply is reenforced by direct overlapping on the specific ply affected or else by the addition of a new strand from below, the short end of which is folded back over the middle ply (fig.18,*b*). When it is temporarily abandoned, the braiding is stoppered by twisting plies together or by tying the two outer plies together with an overhand knot. Braiding is permanently finished by gradually reducing the size of the strands until they are very thin and then rolling the three plies together on the sole of the foot to produce about 3 inches of three-ply twist. Shreds of fiber (*wuluwulu*) left on the cord after braiding is finished are carefully cut off with a knife (*taku*) to give a smooth, neat appearance to the cord.

[804] Finished cord is measured by stretching it from tip to tip of outstretched arms across the chest. One such measurement is equal to a fathom (*ngawa*). When the worker has made a sufficient number of *ngawa* for his purposes, he winds the cord into a coil of fathom loops and stores it until needed. Lengths of cord for canoe lashings are made fairly short because the cord must be used uncoiled when lashing through holes in the canoe hull. Working coils for house lashings are made by winding the sennit over the back and palm of the hand. The sennit is taken from the hand, the free end is wound several times round the middle of the coil and fastened with half hitches. The commencement end is pulled from the center of the coil and the lashing started with this end. As the lashing proceeds the coil unwinds itself, but the coiling prevents the sennit from becoming tangled and hard to use.

Examples of three-ply braided cords for various purposes are:

Anchor line C8198 (*kawa tau*): three-ply braid, 6 mm thick, 11 mm wide. The plies thin down to 4 × 2 mm at the finishing end and are twisted into two plies (two plies being twisted as a single element) for 2½ inches and knotted.

Other lengths of braid used as deep-sea fishlines and anchor lines (C8197, C8199, C8198), have thicknesses of 4 × 7, 4 × 8, and 5 × 10 mm. They are all loosely braided pieces of sennit (*kawa wili yaeyae*).

Canoe lashing sennit C8103 (*kawa unu li vaka*) is a flat three-ply braid, in which each ply is composed of 13 long coconut fibers. Short plies are lengthened by direct overlapping, the slight backward projection of the short end of the added strand being trimmed off later. The finished braid is 3 mm thick, 6 mm wide; the flatness and strength of this braid make it ideal for lashing together hull parts.

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292 Five-ply (*wili lima*) braiding is reserved exclusively for the making of sennit malos (*kawa malo*). The braiding technique is similar to three-ply braiding save that the outer ply from either side crosses two plies instead

283 of one ply in passing over to the middle position. The under surface of the
292 five-ply braid is termed *aloalo* and is marked by a pronounced transverse concavity. Shreds of coconut fiber left by the braiding are not cut off but are left, presumably to ease the rub of the malo against the skin. The outer surface (*tua*) of the malo is flat and smooth because the shreds are cut off. Braiding is very tight and strong. Informants mentioned that the utmost a good worker could braid each day was about 12 inches, and from this his hands became roughened and torn by tugging at the braiding to make it tight.

A sennit malo observed in the field was of five-ply braid, 33 feet long, ½ inch wide, and ¼ inch thick. The commencement end (*kamatanga*) consisted of a two-ply twisted loop, 1¼ inches long. This loop was hitched over a bracing stick in braiding and the four ends braided as a four-ply braid for 1 inch. A fifth ply was then added and the rest of the malo braided five-ply. The finishing end (*wakaotinga*) was fastened with an overhand knot, and a length of two-ply twisted sennit, 4 feet long, 1/16 inch in diameter, was knotted to this end. This length of twisted sennit (*kaua li malo*) is used to secure the malo to the waist when worn or to fasten it in a flat disc when stored.

Malo C8146 is made of two shorter lengths of five-ply sennit joined together by knotting. One section of the sennit is ½ inch wide, 3/16 inch thick; the other section ¾ inch wide, ½ inch thick. A malo is wound for storage in the shape of a disc (*iko*, pl.3,*C*). The malo is laid on the ground, the commencement end folded in and the rest of the sennit wound round this core to produce a flat disc 11 inches in diameter. The turns are held together by the *kaua li malo* cord which passes from the circumference through the center hole of the disc and back to the circumference again where it is looped round the first turn. The free end is passed round the circumference for 3 inches, then passed down to the center hole, and back to the circumference again, these turns being repeated at every third inch round the circumference.

283 The ordinary, quickly made, climbing bandage (*koonga*) is made from
246 strips of coconut midrib (*kalava*), chewed to soften the fibers, and then looped by fastening the ends with a reef knot. The coconut climbing band-
223 age (C8057), *koanga kake niu* (climbing bandage to climb coconut tree), is 30 inches long, 5/16 inch thick. More permanent and stronger bandages, braided from pandanus roots, are used by a bird catcher who wishes to be sure that a bandage will not break and throw him to the ground during the several hours he remains in a coconut tree. Young aerial roots of the *yulu* species of pandanus are cut as long as possible and baked in the oven or heated over a fire. The roots are pounded with a piece of wood until the fibers are soft and flexible. Strands of this material are made into a three-ply braid, the ends knotted to form a loop. Climbing bandage C8159, (*koonga yulu*) is three-ply braid, 45 inches long, ⅝ inch wide and ⅛ inch thick.

283 Men today spend much of their time at braiding sennit and *uao* fiber
461 for ropes and fishlines. When the price of copra was high, many European
177 fishlines and ropes were in use, but low copra prices have sent the men
439 back to native materials though they consider cordage making a laborious job.

CLOTHING

291 The Pukapukans today wear European dress termed *kakau* (coverings).
177 Formerly the everyday dress of the man was the *malo launiu* of plaited coconut leaf; that of the woman, the coconut leaf kilt (*titi launiu*). These articles of clothing were called generically *wakakawu*; any clothing or ornament attached to the waist was called *lulu taukupu*. In general clothing was worn below the hips. Today men retain this pattern in the way they fasten trousers below the hips.

The technique of making the man's coconut-leaf malo has been given (p. 141). To wear the malo, the strings are tied round the waist, the body of plaited material is placed over the genitals, and the braided tail is passed between the legs and fastened to the strings at the back. The woman's kilt of coconut leaf reaches to the knees.

294 The kilt is made by splitting leaflet-carrying strips of appropriate length from the butt end of the coconut leaf. The strips are made thin and soft by tearing off superfluous fibers with the teeth and by chewing. Four of these strips are placed together in pairs, with the rough side of the strips in juxtaposition. The two pairs of strips are tied together at 3-inch intervals with strips of midrib fiber (*kalava*). Each leaflet is split longitudinally by removing the leaflet midrib (*tua*), and may be split again any number of times with the thumb nail. A length of two-ply twisted sennit is tied to each end of the midrib strip waistband by which the kilt is fastened round the waist. There is no record that the leaflets of the kilt were ever plaited or braided together. Kilt C8190 conforms in all particulars to the above description.

293 Back supports of twisted fiber are sometimes worn. Formerly these
283 girdles were made of the bark of the *welo* tree.

The bark was removed from the trunk of the tree and soaked in salt water for about two weeks. Strips of bark were then cut to the appropriate length and width and soaked in fresh water until the bark was white and tough. Dyed red, the bark was used as streamers for ornamental headdresses. Left white and twisted into a cord termed *matai welo*, it was used to make the champion's ring at a wrestling contest or [764] was wound round the waist (*pepelu ki te matai welo*) to support the back against strains. Today mourners sitting round a corpse for 24 hours or longer tie a sennit cord round the waist to support the back against the strain of continuous sitting.

291 Sandals of elaborate type are unknown. But when, after prolonged reef fishing, the soles of the fisherman become very soft from long immersion in water, he may strip coconut leaf stipule (*kaka wie*) from a tree by the beach, fold these strips to a suitable thickness, and tie them on his feet with lengths of coconut midrib fiber (*kalava*). These foot coverings, termed descriptively *wakamalu vae* (foot soothers), were worn over the sharp and hot coral until the soles hardened again.

Uncovered heads are exposed to the sun only for short periods. Adults who are to be out in the sun for some time invariably wear hats or make a rough head covering out of coconut leaves. No eye shade was or is worn to protect the eyes from the glare of the sun.

CLOTHING FOR SPECIAL OCCASIONS

292 Both men and women wore special clothes for festivals. The dress of the man for sports contests consisted of the malo of pandanus or the malo of sennit, or both. A non-contestant might also wear a poncho-like garment called *la kupenga*, and a sennit malo with attached feathers. The sennit malo (*malo kawa*) and the pandanus malo (*malo kie*) are described elsewhere (pp. 133, 146). Both are worn for wrestling contests, formerly also in warfare. The sennit malo alone is worn for other contests like spear throwing. The method of donning the two malos (*pelu te malo*) is as follows:

> First each fringed edge of the pandanus malo is turned in to make a longitudinal fold about ¾ inch deep. The malo is then folded longitudinally a second time along the mesial line so that the final width of the malo is about 3½ inches. An assistant takes the malo at the middle section and passes it round the waist from back to front crossing the two free ends above the navel. The malo is pulled tight; one free end is passed down over the genitals, through the legs, and brought up the back to hang over the shoulder. The other free end is brought up over the chest and also hung over the shoulder. The assistant takes the commencement end of the sennit malo, places this loop over the pandanus malo at the navel, and winds the sennit malo round the waist on top of the free end (thus burying it) and over the pandanus malo. Five or six transverse turns are made down, then a similar number of turns made up and over the first turns. The assistant continues to wind the malo round the waist until the twisted sennit end is reached. This end is passed down on the outside of the transverse turns, pushed under, and brought up underneath the transverse turns and over to the front again. The free end is pushed through and caught over the downward turn of the sennit cord, pulled tight, and the free end passed along the malo for about 8 inches, and bound round it again. This binding is continued until the transverse turns of the sennit malo are secure, the free end of the binding cord being fastened with a knot to the last transverse binding. One free end of the pandanus malo is now brought down from the front shoulder, passed down over the sennit malo, pushed up and underneath the sennit, then obliquely down and under again, continuing to bind the pandanus malo round the sennit malo until the middle of the back is reached, when the free end of the pandanus malo is tucked under the sennit. At the back, the second free end of the pandanus malo that has passed through the legs is similarly bound round the sennit malo and worked round to the front where the free end is tucked under the sennit malo. Depending on the length of the pandanus malo, the binding turns will be spaced or contiguous. For composite dart throwing contests, the sennit malo alone is girt on as described. One man always helps another to gird on either malo. An alternative method of donning the two malos is given by Macgregor (20, p. 48 and pl.4).[1]

292 285 There is a reference in a chant to a malo termed *malo kula*. Informants could give little information about this garment, though they suggested it was not necessarily worn by the chief alone but might be worn by any man who was fortunate enough to own one. It consisted of the ordinary five-ply sennit braiding, but at each twist of the braiding, the quills of small red feathers were inserted and caught by this twist. The name of the bird from which the feathers were obtained had been forgotten.

292 [265] Some braided five-ply malos were formerly made from human hair, possibly the hair of a beloved child who had died. Presumably these malos

[1] [See 1: McGregor, pp. 48, 52-- Analyst.]

292 were shorter than those made of sennit and were therefore worn more as ornaments than as protective clothing.

523 Both the malo of sennit and the malo of pandanus are greatly valued today in terms of sentiment and scarcity. No longer being made, they are
763 the greatest heirloom that a man can hand on to his son. Sennit malo
178 C8146 was procured from a childless man who felt he had no further use for it. During the confessional held as a last desperate attempt to save the life of an only male child, the sennit malo that the child would inherit was hung from the house tiebeams as if its highly charged sentimental value might help the child to hold onto life (p. 338).

826 Informants suggested that the hands of contemporary Pukapukans are different from those of ancient Pukapukans and that therefore the art of
283 making the very tight five-ply braid of the sennit malo has been lost. But, as both malos might be classed by missionaries as heathen garments, there
797 is no longer sufficient incentive in the culture to take the trouble to make
178 them.

The art of making the poncho-like garment (*la kupenga*) worn by men
285 above the pandanus malo has been lost, but from informant's description it seems that it is plaited of fine strips of *kie* pandanus material. Three or
292 four elements were plaited as a single element (*langa tolu* or *langa wa*).
828 The garment was rectangular, falling to the waist at front and back. The neck hole was either square or roughly V-shaped. Hanging ends were
787 fringed with strips of *kie*, and the garment was fastened with strings of *welo* cord (*matai welo*) on either side, one pair of strings under the arms, another pair at the waist. Informants felt that there was no status associated with the wearing of this garment, but it was worn on festive or ceremonial occasions by anyone whose wife or relative had acquired the technique of plaiting it from a dream in which familiars came from the Underworld to teach it. The following lines of an old chant were quoted to prove the
539 antiquity of the garment:

Wakakawua ki te la kupenga	Clothed in the *la kupenga*
Tuputupu a Yiva angaoti	Made as in Yiva (legendary land) certainly,
Yongia oua wakaevoevenga.	Smelled its fringe.

291 Informants said that a Pukapukan man returned from the land of Yiva where the art of making *la kupenga* was also known. He was wearing a foreign-made *la kupenga*
177 when he landed. The people went to greet him and some pressed the fringe of the garment to their noses. This fringe had the smell of a foreign land or of a foreign people. It may be inferred perhaps that the garment was introduced into Pukapuka from the land of Yiva and never became a common article of wear, its use dying out rapidly when the Pukapukans acquired European garments.

292 Corresponding to the *la kupenga* worn by men was a sort of short cape (*yeu*) worn by women. The art of making the *yeu* has been lost today.

292 Informants disagreed as to whether it was rectangular or round, but it was finely plaited of *kie* pandanus material. It was slipped over the head and fell to about eight inches below the neck. No fringe is mentioned. Ties from the bottom front were carried round to the back and fastened. Ties from the bottom back were fastened to the front ties at the middle of the back. The garment was thus a cape covering shoulders and breasts. It was probably worn by some women on festive occasions, not from modesty perhaps, but as a type of decoration (*wakamanea* or *mea wakalelei*) or as a sketchy protection against the sun.

Decorative kilts (*takave*) were sometimes worn by the women. They were made by dipping strips of *lito* pandanus material into red dye and fastening these strips either to the ordinary coconut-leaf kilt, thus making a kilt of green and red strips, or else to a separate girdle worn over the coconut-leaf kilt.

CEREMONIAL DRESS

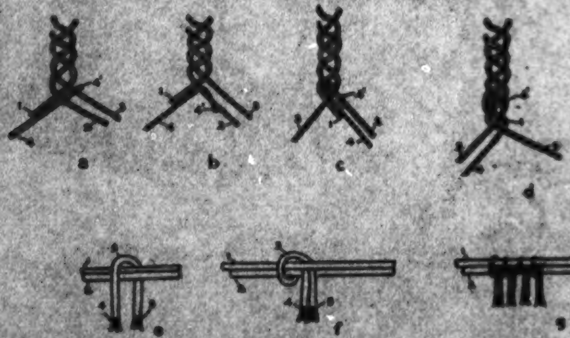
292 Special varieties of the poncho garment, the ceremonial priestly head-
796 dress, and the pandanus malo, constituted the attire of the chief when he went
613 to the religious structure of his lineage for his induction or later for consulta-
643 tions. Special garments were worn according to the god consulted. The
778 garment (*epa*) of the chief of Muliwutu for consulting the gods Malo-
776 kitelangi, Te Matakiate, or Tumailangi, was made of netted two-ply twisted sennit and called *epa kupenga*; that of the chief of Matanga for consulting the god Tumulivaka was made of plaited *welo* fiber (*epa welo*); that of Tua for the gods Mataliki and Tamayei was made of fine plaited *kie* material (*epa lauliki*).

No informant had seen an example of these *epa* garments, but it was suggested that they were made in the shape of the *la kupenga* garment with fringes of the same material as the body. It was believed that the gods concerned wore the type of *epa* garment ascribed to them during their stays
[787
828] in the Underworld and that they came in dreams to the men or women to whom they taught the technique for the appropriate garment. The *epa* of the chief was a very tapu costume, protected both by the sacredness of the chief and the vaguely conceived power of the gods. If any unauthorized person handled the *epa* garment, the god would punish him by striking him dead with a flash of lightning.

292 A special type of headdress (*taumata kaua* or *taumata aliki*) was worn by the supreme chief and sub-chiefs on festive occasions. Geoffrey Henry reports that he saw the late chief Pilato wearing a hat of this type during the visit of the missionary boat *John Williams* to Pukapuka in 1912. No old hat of sennit exists on the island today, but informants made one which may be considered fairly authentic. Gill (10, pl. p. 18) shows a native wearing a

292 padded conical hat obviously not made of netting. There is no information available as to the material from which this hat is supposed to have been made nor of the method of manufacture. Gill's hat may represent an artist's conception of the sennit netted hat of the chief.

286 Hat C8094 (*[illegible] kowu*) is made of two-ply twisted sennit netted into a conical shape (pl. 4,*A*). The technique of the netting is the same as that for ordinary fishnets
294 (p. 207). The meshes are ¾ inch wide. The rim of the hat is made of a thin strip of coconut midrib ¾ inch wide which is bent into a circle of 7¾ inch diameter and the two ends bound together with sennit. Six vertical strips of midrib, each 8½ inches long, are bound at equal intervals to the rim. The distal ends of these strips are notched, gathered together to form the apex of the cone and fastened together with figure-of-eight turns of sennit. The rim strip and two bracing circular strips of midrib, one strip 2½ inches from the rim, the other 4½ inches from the rim, are passed through the meshes of the hat material and bound to the vertical bracing strips by transverse turns of sennit. A 6-inch fringe is attached to the hat. Fringe material is made by fastening coconut fiber (*[illegible]*) to a base strip of pandanus (fig. 18,*e-g*). Two strips of fringe each



283 FIGURE 18.—Braiding and fringing technique: *a-d*, braiding; *e-g*, fringing technique (*[illegible]*, made to bend over) for sennit hat. *a*, three-ply sennit braid, end
294 of ply (1) either short or thin, making it necessary to join to it another strand; ply 1 brought to left and renewal strand (4, 4') laid alongside 1, under ply 2; short end 4' placed over ply 3. *b*, short end 4' folded down and along ply 2. *c*, ply 3 brought across ply 2 and short end of ply 4', locking this short end in position; ply 1 and ply 4, working together as single ply, brought across from outside to pass over ply 3. *d*, short end (4') of added ply securely locked; ply 2 passes over plies 1, 4; ply 3 passes over 2 and ply 4 passes again across 3; continuation of braiding makes join in plies barely perceptible save under closest scrutiny. *e*, strand (*[illegible]*) of coconut-husk fibers about 12 inches long, doubled (3) over two strips of pandanus material (*[illegible]*) (1, 2) which are knotted together at one end and looped over toe, forming near limb (4) and far limb (5). *f*, both limbs (4, 5) brought up between two strips (1, 2), passed over lower strip (2), and pulled tight. *g*, strands of fiber added successively to right; pulled tight and kept close together; pandanus strips (1, 2) hidden by turns; fibers of strands indicated by light shading of strand ends (4, 5). Pukapukan technique inverts Manihikian technique noted by Buck (19, p. 128, fig. 47).

286 294 19 inches long are fastened to the netting of the hat. One end of one fringe is laid on the outside rim of the hat, passing up and over the outside apex, and down to the rim again at a point opposite the starting point. The fringe is fastened to rim, netting meshes, and apex by a continuous sennit cord which makes transverse turns round fringe and points of attachment about 1 inch apart. The second fringe is applied to the hat in a similar manner, passing from rim over apex to opposite rim at right angles to the first fringe. A third length of fringe 24 inches long is fastened round the rim in a horizontal plane with a continuous sennit cord. To the inside of the rim a piece of pandanus ½ inch wide is bound with continuous turns of sennit to form a hat band. Informants suggested that the more correct hat band material is *wolo* bark. Two lengths of sennit are tied to the apex of the hat and their ends knotted together to form a suspension loop 11½ inches long by which the hat may be hung up when not in use. The fringe is combed out at regular intervals to prevent snarling of the fibers.

292 793 178 [776 787] The priests of each lineage (*po*) wore headdresses when consulting the gods in the god houses or on the religious structures. Headdresses not in use were hung up in the god houses. The relation of the headdresses to the gods is obscure. Some thought that the headdress was worn in the Underworld by the god in question, others that a priest wore a special headdress because a certain god gave him inspiration when he was an initiate, still others that the headdress was worn only for consulting special gods. Probably all three opinions are equally correct. Some headdresses were described by informants who had seen them in their extreme youth. Gaps of memory were filled in by reference to chants. None today can make any of the headdresses of which there are no survivals on the island.

292 793 302 The headdress of priests of Maliwutu was called *awanga*. It was also associated with the god Te Langaga. Two strips of red-dyed *wolo* bark (*wuti wolo*), each about 2 inches wide and long enough to pass round the head, were fastened together to form a headband. At front and back between the double headband strip were fastened two pieces of turtle shell, each about 2 inches wide and from 12 to 16 inches long. The two pieces were about 5 inches apart at the base and crossed like a St. Andrews Cross.

776 613 The headdress of Matanga, Yangalipule, and Yamanaia sub-lineage, was called *pulou*, and was associated with the god Te Awuawu. The head was oiled and the hair laid straight back flat on the head, overhanging the neck and back. A double headband of *wuti wolo* bark was wound round the head. To the front of the band was fastened a single strip of turtle shell, to the tip of which was tied a large bunch of *wuti wolo* streamers which fell back over the hair and onto shoulders and back.

[609 776] The headband of Tua and of Matanga sub-lineage was called *awanga pakayau kotuaru* (headdress of crossed frigate bird feathers). It was associated with the god Ngaliyeyea. It consisted of the usual *wuti wolo* headband, to the front of which were fastened two frigate-bird wings crossing each other to give a fish-tail effect. An alternate headdress for priests of Tua was associated with the goddess Taua. It was made of fine mesh sennit netting and was termed *kupenga yu*. The headdress probably resembled the sennit hat of the chief without the coconut fiber fringe. The net of the goddess Taua had the virtue of rendering invisible anything over which it was cast, and also of blinding the thing hidden under it. Hence when a foreign vessel was reported off the island, the priests of Taua donned their net headdresses, thus symbolizing that Taua had placed her net over the whole island and that it was now invisible to the crews of the foreign canoes.

The headdress of Yalongo and Yayi lineages was called *putiki kehoo*. It was associated with Te Atua Vaelua and Te Alongaua. The long hair was oiled and braided

[302] in the shape of a cone on top of the head. *Welo* bark was wrapped round the forehead, and the wrapping continued round the cone of hair to the apex. A single piece of turtle
292 shell fastened to the headband stood up in front of the wrapped turbanlike cone. Long *wuti welo* streamers were fastened to the tip of the turtle shell, falling back over the
793 top of the cone to blow out in the wind.

The headdress of Yamunga was also called *amounga*, but was associated with Te Maungaea and Talitongamalu. It consisted of the *welo* headband base to the front of
776 which was fastened a piece of turtle shell cut in a conventional representation of a fishtail (like a Tau cross with an inverted cross member). To the cross member of this
613 turtle-shell cross were tied *welo* streamers at four equidistant intervals. At equal spaces round the headband were fastened four strips of turtle shell, each 6 inches high. To the tip of each piece of turtle shell was fastened one *welo* streamer.

ORNAMENT AND DECORATION

301 Ornaments and body decorations of shell, leaves, and flowers are worn
304 round the waist, over the shoulders, suspended from the ears and hair, on occasions when the Pukapukan man or woman feels the call to beautify the body—for formal festive occasions, or informally whenever flowers and leaves are at hand. Tattooing and body painting were unknown in Pukapuka. There are no discoverable references to them in chants or stories.

301 Almost every leaf or flower on the atoll may be worn at one time or another by man, woman, or child as a chaplet (*taumata*), necklace (*yei*), or
302 waist decoration (*titi*). Women seldom return from the talo gardens without a few leaves or flowers stuck in their hair or fastened about the waist
832 as a rough girdle. Men serving as guards or working in the bush always find time to make for themselves a chaplet or necklace of leaves. Children stop in their play to make themselves little foliage decorations. Young people, bound for lovers' meetings on moonlight nights, oil their bodies and hair with sweet-scented coconut oil and make themselves necklaces of *tiale* flowers.

VILLAGE DECORATIONS

292 For public festivals, such as those celebrating the winning of a sports
621 contest, each of the three villages has its own characteristic foliage for decorative kilts, chaplets, and shoulder bandoliers. The people of Ngake
293 make their decoration of *mako wale* (the white-heart leaves of the pandanus), *lakau yili*, *tamanakowake*, or *pola puka*; the people of Loto make decorations of banana leaves (*lau wuti*); the people of Yato, of coconut leaves or the *maile* fern. Decorations of these leaves are distinctive signs (*mailongo*) of the respective villages. Waist decorations (*titi*) are worn over the customary basic garment.

292 The *titi mako wale* (kilt of white leaves of pandanus) is made by stripping young leaves from the pandanus tree. Spikes are trimmed from each leaf and the leaf is split
294 in two longitudinally. Each leaf is white for most of its length shading to a pale green at one end. A plaited strip of prepared pandanus (*lilo*) is used as a basic girdle. The worker lays the girdle on the ground, takes one leaf and fastens the green end to the

292 294 girdle with a single overhand knot so that an inch or more of the green end projects above the knot. The projecting end is laid along the girdle. The second leaf is similarly fastened over both green end of first leaf and girdle, the third leaf over the green end of second leaf and girdle. The process is repeated until a girdle of sufficient length is obtained. A plain headband of [illegible] leaf is worn with this girdle.

Girdles of [illegible], *lakau yili*, *pala pako*, and *maile* are made by placing twigs of the plant into bundles, each with the butts in the same direction. Each bundle is overlapped with the next bundle, the butts of the first bundle with the leaves of the second, and the girdle is bound together with continuous transverse turns of fiber stripped from the coconut midrib.

Girdles of banana leaves are made by stringing the stalks of a number of banana leaves on a coconut midrib fiber.

The girdle of coconut leaves is made by tying the ends of a strip of midrib-carrying leaflets round the waist.

293 301 Any of these girdles may be worn as a bandolier by slipping it over the head and allowing it to fall across chest and shoulder. A bandolier of the new plant is a favorite decoration of Ngake villagers. A thin strip of coconut midrib is bent into a circle and the ends fastened together. *New* twigs are laid round the rim of midrib and bound to it with transverse turns of green coconut leaflet.

Waist girdles made of pieces of pearl shell shaped like the shanks of small composite pearl-shell fishhooks and strung on a length of *aoa* fiber were termed *wua titi ui*. They were worn as a fringe across the front of the waist on top of the basic garment. This ornament was a prized one and was worn only by persons of status. It was also an appropriate gift to [764] give to the corpse of a beloved relative. One was seen by the grave diggers who opened an old grave by mistake (p. 164), but there is none on the island today.

Edge-Partington (8, 2d ser., pl.38,5) sketches a "girdle worn by men consisting of a long string of cowrie shells. The string passes along the mouth of the shell and plugged (*sic*)." This girdle, which is in the British Museum, is 120 inches long. Such a girdle would be intolerably heavy when worn round the waist, and it is possible that what was originally a sinker line for a seine net has been mislabeled as a waist girdle. My informants did not mention a girdle of this nature.

BREAST ORNAMENTS

301 431 Breast ornaments were made of flowers or more permanently of pearl shell or other shells. Leis (*yei*) are made of *tiale* flowers strung together on a strip of pandanus. More elaborately, *tiale* flowers are alternated with transverse slices of the ripe pandanus key. These are made and worn by young men and women, often as lovers' gifts.

301 Permanent leis of pearl or small sea shells are termed generically *yei*. One type of breast ornament (*yei kiki ui*) is shown in figure 19,*a*. Another

301 type, termed *taumanea*, consisted of small fishhook shanks of pearl shell alternating with pieces of pearl shell cut into other shapes, strung on a cord of *wao*. There is no example of the *taumanea* on the atoll today, but Talainga reported that he saw in the mistakenly opened grave pieces of pearl shell cut into the shape of five-pointed stars which he suggested belonged to an old *taumanea*.

301 643 The pearl-shell breast ornament (*yewe*) shown in figure 19,*b*, is the most valued type of permanent ornament. It was formerly worn by the chief for ceremonial occasions. The formal placing of the *yewe* round the neck of an aspirant to a vacant title signified that he was the chosen man. Skinner (24,p.187), in discussing pearl-shell pendents in the Cook Islands, suggests that these pendents may have been attached to the head by plaiting the uncut hair of the wearer. In support of this theory he reproduces from Gill (10,pl.p.18) a section of the plate entitled, "A Village in Pukapuka under Heathenism." Whatever the validity of the scene purported to be shown in this plate, informants knew of no custom of attaching ornaments to uncut hair, nor is there any record of crescentic pearl-shell ornaments being attached to arms, torso, or sides of the head.

EAR ORNAMENTS

301 304 Ear ornaments are termed *wakaoveverenga*. The ear lobes of an infant are pierced with a bone of the sword fish or a spine of the pandanus leaf. A piece of *pukenu* wood is pushed through the hole and left until it heals, to prevent closing. There is no record of lobe distension by pushing bulky or heavy articles through the lobe holes. Earrings consist of small rings of coconut shell (*wakaoveverenga ngaipu talinga*) or else more elaborate earrings of coconut shell, turtle shell, and pearl shell. The earring illustrated (fig.19,*e*) is beautiful when polished. Informants stated that the design was an old one and could be executed with old time Pukapukan implements. Simple ear ornaments are made by pushing the stem of a *tiale* flower through the lobe hole. Another ornament called *kakalisi* is made by levering off with the thumb nail the floral bract (*kakalisi*) of the immature coconut, pinching the bract together to make a short slit. The slit is then placed against the lobe of the ear, and when the fingers are released the lobe is pinched by the natural spring of the bract.

HEAD ORNAMENTS

301 Simple head ornaments are made by pushing flowers into the hair or binding the hair with strips of pandanus or coconut leaflet. A flower so worn is a *pili*; a headband is a *patiki*. More elaborate headbands are made by splitting the flower and seed containers (*kaupau*) of the pandanus tree

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:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

361 into thin strips which are then braided into a three-ply braid long enough to go round the head, the two free ends knotted together. The chaplet is sweet-smelling and is a favorite with both children and adults.

The coconut fiber fringes used to decorate the net hat of the chief are also worn separately as part of the decorative costume of Yato village. The fringe is fastened to a strip of pandanus leaf which is tied round the forehead. Fringes are fastened round the brim of the modern hat. The decoration is sometimes completed by more fringes worn round the neck and across the breast.

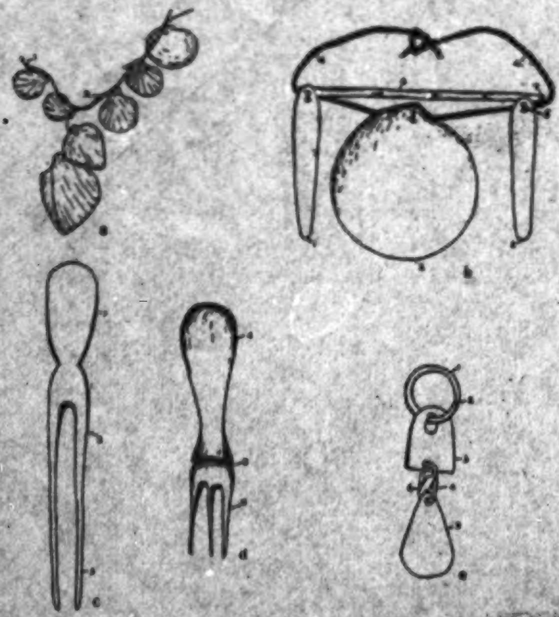


FIGURE 19.—Ornaments. *a*, section of shell neck ornament (*yei lihi ai*): original (C8158) consists of 32 small shells (*Pinctada; Chlamys; Cardium fragum*; and *Codakia Jagonia bella*): *Chlamys* are mainly yellow (some pink), *Pinctada* mottled blue and green, and other shells white; necklet cord (1), 34 inches long, made of two-ply twisted uoo cord 1 mm in diameter; holes bored in hinges of shells attached to necklet cord by single-ply strand of twisted uoo fiber (2), passing through hinge holes and making transverse turns around necklet cord. *b*, pearl-shell breast ornament (*yano*) (C8033): two side pendants (1, 3) of polished gold-lipped shell are shaped like a composite hook pearl-shell shank; shank (1) 4 inches long, ⅛ inch thick at distal end, ¼ inch thick at

301 proximal end; shank (3) 3¾ inches long, ¼ inch thick at proximal end, ⅛ inch thick at distal end; each shank ¾ inch wide at proximal end, ⅝ inch wide at distal end; center shell (2) also of gold-lipped shell, polished smooth; greatest length 4¾ inches, greatest width 3¾ inches, thickness at hinge ¼ inch, at lip ⅛ inch; at proximal end of each piece of shell two holes drilled with old-time drill, showing crater effect; necklet cord (4) of three-ply braided human hair 2 feet 11½ inches long and averages 3/16 inch in thickness; pendants fastened to necklet cord by length of braid (5) ⅛ inch thick, which passes through holes and is knotted to necklet cord; pendants held apart by stretcher (6) of *ngangie* wood 6¾ inches long, ¾ inch wide, ¼ inch thick; ends of stretcher notched (7) and fastened to necklet cord by four transverse turns of fine two-ply twisted sennit cord; turns finished off with circumferential turns between cord and stretcher. *c*, wooden comb (*yolo*) (C8934) with two teeth (*matalua*) made of *ngangie* wood: 9¾ inches long; handle (1) averages ⅜ inch thick; teeth 5⅝ inches long, ¾ inch thick at 2, ¼ inch thick at 3. *d*, comb with three teeth (*matatolu*) (C8935) made of *ngangie* wood; handle round and 1¼ inches thick at 4; a pronounced shoulder (5) separates handle from short teeth (6) which are 2¾ inches long and average ¼ inch thick. *e*, earring ([illegible]) of pearl, turtle, and coconut shell (C8140): coconut-shell ring (1) ⅜ inch in inner diameter and 1/16 inch thick, cut through obliquely at 2 so that ends can be opened and slipped through hole in ear lobe; thin plate of golden pearl shell (3), attached to ring, 7/16 inch high, less than 1/16 inch thick; attached to lower piece of pearl shell (5) by figure-of-eight connective of black turtle shell (4) which is 3/16 inch high, ¼ inch wide, and 1/32 inch thick; each half of connective slit (6) so that it may be slipped onto two pieces of pearl shell; lower plate of pearl shell (5) 1 inch high and less than 1/16 inch thick.

301 Formerly when both sexes wore long hair, the hair was dressed with wooden combs (fig. 19,*c*,*d*). The two-pronged comb (*yolo mata lua*) was
302 used to beat water from the hair after it had been washed; the three-pronged comb (*yolo mata tolu*) was used to arrange the hair and sweep it back before tying it together at the back of the head with a strip of pandanus. For ornamentation, the combs were often left in the hair. Though the wooden comb has gone out of use today, most women wear a trade comb as an everyday ornament.

STONEWORK

324 Because of the absence of basaltic stone, Pukapukan stonework is limited to the use of coral (*punga*), coral conglomerate (*koupapa*), and coral pebbles (*kilikili*). Stone is used for paths, seats, walls, house foundations, well facings, fishweirs, graves, religious structures, and tools.

Paths

487 Paths and trails cut through the bush lead from the lagoon side to the outer beach side of the island. When they reach the outer beach, some paths are continued down to the sea and across sharp coral rubble by stepping stones of flat slabs of coral conglomerate placed over the rubble. They enable the fisherman or other visitor to the outer beach to walk to the sea without cutting his feet on the sharp stones.

1:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

STONE SEATS

324 Formerly a man might make on the outer beach a stone seat (*tokemelangi*)
177 on which to rest in the cool of the evening, eat the evening meal, and
sleep. Informants stated that the two Pukapukan voyagers, Tonu and Taea,
517 saw stone seats on the island of Wakalava and introduced the idea on their
return to Pukapuka.

There was apparently much latitude in the way these stone seats were built. Some
were built with a stone seat, stone back rest, and a slab at either side for an arm rest;
others were made by hollowing out a shallow depression in the sand and facing the
bottom and sides of the depression with coral slabs. The sides were inclined at an angle
of about 10 to 15 degrees to the bottom; the bottom was at least 6 feet long, and 3 feet
836 wide, wider if a man planned to take wife or sweetheart to sit with him. Other seats
564 were made according to fancy. Each seat was named after its owner and served as a
symbol of his prestige. No seats are used today, most of the stones having been used
797 for oven stones: missionary teaching does not countenance the use of stone seats on
lonely outer beaches. Macgregor's statement (20, p. 23) that the idea of these seats
552 was brought to Pukapuka by the people of Yayake and that they were used by priests
114 as religious structures for the offering of turtle and fish to the gods received no support
from informants who were strongly of the opinion that the seats were places of rest
778 and recreation only.

The stone seat on the southwestern outer beach of Motu Ko, which tradition states
324 was used by the bird man Wata-manava-ui, is now in ruins. The remains of other
seats lie close by. The outer beach has been elevated at this place by the piling up of
coral gravel through wave action and the ruins of the seats are situated well under the
133 lee of the raised beach. To have been useful as cool resting sites, the seats must have
177 been built before this beach was elevated. The ruins consist of fragments of stone 1 to
2 feet square. The original stone seat, suggested informants, has been gone for many
generations, washed away by high seas. A later generation built on the same site, but
these seats were mostly destroyed by the seas; those that remained were pulled down
under missionary influence.

WALLS

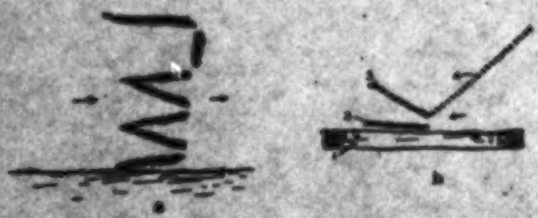
423 Stone walls marking the boundaries of the reserves (p. 35) have now
almost disappeared, but remnants of the wall round Uta are to be seen at
333 the place Matala. The wall consists of large slabs of coral conglomerate
417 set on edge. The old gate (*pu*) through this wall still remains. It consists
of a gap about 2 feet wide marked on either side by a stone reputed to have
been carried there by the warrior Kupolu. One stone is 7 feet wide, 8
inches thick, and 4 feet 8 inches above ground; the other is 7 feet 8 inches
wide, 22 inches thick and 4 feet 4 inches above ground. Each stone is set
about 3 feet in the ground. The size of the stones, if typical of all the stones
forming the wall, indicates the great labor of building the wall.

HOUSE FOUNDATIONS

333 The use of small coral slabs set on edge to form the boundary of the house platform and the use of coral pebbles to form the house floor is described on page 116.

WELLS

312 Deep wells dug close to the beach were always faced with coral slabs.
332 Shallow wells, 1 or 2 feet deep, were not faced unless they were in constant
395 use. Slabs at the bottom of the well were stood on edge and forced into the sand; the sand was dug out inside these upright slabs and the bottom of the well paved with coral gravel. Above water level, the sides of the well were faced with horizontal slabs set one above the other. The edge of the well at ground level was faced with especially large blocks of stone to give a firm foothold to the drawer of water and to ensure that the top of the well would not cave in.



226 FIGURE 20.—Plan of fishweirs. *a*, stone-walled fishweir off western beach of Yato village: walls about 20 feet long, width of three weirs about 60 feet; fish swept into weirs by ebbing tide moving in direction of arrow. *b*, composite weir in lagoon indentation: 1, causeway forms one wall of weir; 2, row of stones set against causeway to block possible channels; 3, row of stones forming second wall of exit (ala ika); 4, coconut-leaf weir forms second wall of weir; net placed at convergence of leaf and stone walls to catch fish moving with ebbing tide in direction of arrow.

FISHWEIRS

Stone fishweirs are found in the reef shallows opposite the northwest beach of Wale, between the beach and the reef passage. One weir is about 100 yards from the beach and consists of stones piled in line to make an enlarged W-shape; the second weir is close to the beach and consists of stones forming a W-shaped trap contiguous with a second trap in the shape of a large square-bottomed U (fig. 20,*a*). The weirs face north and south; the exits are at the northern end, that is, at the points of the W and at the two sides of the bottom of the U. The ebbing tide sweeps through the weirs on its way out over the reef and carries the fish along into the weirs blocked with hand scoop nets.

A combination stone and coconut-sweep weir (*fig.* 20,*b*) is built in the small lagoon indentation cut off from the main lagoon by the causeway that joins the two sections of Yato village. The fisherman seated on the causeway is able to block the exit of the weir with a scoop net.

STONE IMPLEMENTS

324 412 Owing to the scarcity of hard stone, adzes were generally made of *Tridacna* shell; a few were made of imported stone (p. 164). Mallets (*tukituki*) of small, unshaped pieces of coral conglomerate were used to pound caulking material between the seams of the plank canoe. Stones were used for grating talo and for cutting pearl shell (p. 169).

RELIGIOUS ENCLOSURES

778 346 Religious enclosures (*avanga*) on which priests communicated with the gods were round or oval, the form demarcated by a circle of stones placed on edge. Two gaps (*pu*) were left in this circle as entrances to the worshiping place. In the center was the sacred stone (*uwu*) of the god. The ground inside the circle was covered with fine white coral gravel.

Today, only traces of several of these religious structures survive. No complete stone representation of a god remains, but informants suggested that this was any large block of unshaped *punga* coral (p. 319). A section of the stone that once represented the goddess Taua, now functioning as a foundation stone for the old copra shed on Loto beach, bears out this information.

778 Several sites of old religious structures were visited at the place Utupoa on Wale where were formerly situated the enclosures of old Ngake village. Two of these sites were cleared.

172 At the religious structure of the god Te Alongaoa there remain nine stones of undressed coral, each stone approximately 30 inches wide, 16 inches high, and 4 inches thick. The tops of the stones are about 3 inches above ground level. By continuing the outline traced by the stones, it appears that the religious structure was about 12 paces in diameter. Of the stones standing, one is on the eastern rim, three on the northern rim, five on the southeastern rim. A young coconut tree is now growing on the western rim of the structure. A circle of coconut trees is planted round the outside of the rim of this structure as well as round that of the god Tulikalo. I do not know whether this was formerly the case. To test the levels of the structure, a trench 4 feet deep was sunk across it. The first level was sand and leaf mould. Twelve inches below the surface was the fine gravel that formerly marked the ground level. Below this again was the characteristic sandy gravel of the atoll. Nothing of further interest was turned up by the excavation.

The former religious structure of the god Tulikalo was also cleared to reveal five stones of about the same size as those on the structure of Te Alongaoa. The enclosure was about 10 paces in diameter.

The two contiguous structures of the gods Tumulivaka and Te Matakiore are so overgrown that it was impossible to clear them. Examination of the ground showed that no stones are left on the structure of Tumulivaka. One stone was left on that of Te Matakiore. This stone of undressed *punga* coral is rectangular, 24 inches long, 8 inches above the ground, and 6 inches in diameter. Informants traced the outline of the structure. It apparently was oval with a diameter of about 15 paces one way, 12 paces the other.

778
No other sites visited revealed stones. Informants stated that during early mission-
172 ary days, the stones were removed to build a causeway across the taro swamp, to make
walls for stone houses, and to burn for lime, which, mixed with sand, provided the
791 mortar for the new stone houses.

333 The pattern of low-walled, oval or circular religious enclosures with a
central stone representation of a god is an unusual development in Poly-
778 nesia and recalls the structures that Gill described for Niutao in the Ellice
Islands which he visited in 1872. Gill mentions that the stone representative
346 of the god Tangaloa was a plain upright slab. The religious structure
adjoined the burial ground (a common Pukapukan pattern) and consisted
[361] of "an oval low enclosure, composed of flat stones, some higher than others,
each representing a distinct divinity, so that the sacred men standing inside
the enclosure—the people of course outside—could worship all the gods at
once" (12,p.14). It is unfortunate for comparative study that Gill did not
particularize these religious enclosures in more detail.

Commemorative stones, marking the shrine of an ancestor god on a sacred clearing (*pionga*), consisted of a single upright stone set in the ground, or else several stones set on edge to form a rectangular structure two or more feet square, the enclosure being filled in with coral gravel. This type of commemorative shrine was similar to the seats (*pota*) of the priests in the god house (*wale atua*) and also to the low seat that was set before the stone representative of the god on the religious structure.

GRAVES

764 Formerly each cemetery was surrounded by a low, rectangular wall (*pae-
613 pae*) of coral stones which demarcated the area set aside by the people of a
lineage as their burial place. The area varied in size according to the
numerical size of the lineage. Most of these walls have fallen into decay,
but are observable on some cemeteries removed from the village. The stones
are about 3 inches above ground and are undressed coral of different lengths
and thicknesses.

765 Outside these walls are observable the stone *paepae* that marked the
foundations of old houses of mourning (*wale matenga*). On one founda-
341 tion are still seen the holes into which the wall posts of the house fitted;
on another, rotting wooden posts from the dismantled house are lying on the
foundation.

[177] Within each cemetery, the graves are of three types: the modern Chris-
tian, enclosed, boxlike grave; the rectangular, open grave accorded formerly
565 to people of rank; and the two-stone grave accorded formerly to commoners
764 (pl.2,B).

Former custom was to bury with head to the east, feet to the west. Graves of chiefs (*aliki* [illegible] and [illegible] *aliki*) were marked by eight stones—two at the head, two at

764 the feet, and two at each side; the grave of an executive peace officer (yole) was marked by eight stones—two at the head, three at the right (north) side, two at the left
565 (south) side, and one at the foot; the grave of the executive officer or "prime minister" (wole) was marked by seven stones—two at the head, two at each side, and one at the foot; the grave of a close relative of the chief was marked by five stones—two at the head, and one at the sides and feet. Graves of commoners (distant relatives in the chief's lineage) were marked by a simple headstone and a footstone. Burials of these undistinguished people were side by side, a few inches separating each headstone and footstone in a long grave. Thus over a grave 24 feet long, 8 feet wide, is a row of stones indicating that at least 16 people were buried side by side.

The gravestones of commoners are undressed coral, laid on the side, 6 inches to 2 feet wide and about 6 inches above ground. Gravestones of chiefs vary in size; an average stone is about 30 inches high, 15 inches wide, and 5 inches thick. The surfaces of all graves are covered with fine white coral gravel.

764 Much confusion exists among informants as to whether gravestones of
554 particular shape or material were chosen to serve as signs of personal skills or peculiarities of the deceased:

[826] Veti, for instance, feels that formerly it was common to use hard *koupepa* coral conglomerate for a man's gravestone, softer *punga* coral for a woman's, symbolizing a cultural attitude that skulls of men are hard, those of women soft. He knew of no custom of symbolizing individual peculiarities. Another informant, Te Apa, suggested that formerly it was not unusual to mark the grave of a particularly expert fisherman with a stone whose top was bifurcated like a fish tail (pl. 2,*B*). If no naturally shaped stone was found, a stone might be roughly cut to serve the purpose; the grave of a champion (*toa*) at sports might be marked by a very large triangular stone. Pau made the most consistent, though at times confused, attempt to suggest a more elaborate symbolism for curiously shaped stones. According to him, the grave of an adult man was marked by coral stones laid on their sides about 9 inches above ground; that of a woman by stones on their sides, about 5 inches above ground; that of a child by smaller stones. If a man had two wives, he had two headstones, the children of his first marriage being buried to the left of one headstone, those of his second marriage to the right of the other headstone. The grave of a champion was marked by a tall stone, that of an expert fisherman by a stone with a naturally indented top, that of a priest by a naturally shaped stone that resembled a priest's headdress.

Contrary to these rationalizations, ordinary folk belief has no knowledge that gravestones are anything but rough, unpolished stones (*mata touhinokino*), chosen for the deceased according to the fancy of the survivors. This attitude suggests that the practice of selecting stones to symbolize personal qualities of the deceased was a matter of personal whim rather than an accepted pattern of Pukapukan culture. It is unlikely that acceptance of Christianity would militate against the memory or observance of such a custom if it was formerly in vogue, because death customs are tenacious even in a society subject to rapid change and because it is common Christian practice to engrave on gravestones particulars of a deceased person's abilities and character. In spite, therefore, of individual beliefs about the symbolism of gravestones, it is probably correct to assume that few people bothered to select stones to which symbolisms might be attached.

764 A number of separate graves on the atoll provide variation on the common type of burial stonework:

The grave of the Tongan warrior Taupeka, on the boundary between Yato and Loto villages, is a separate grave apart from the nearest lineage cemetery. It consists of 10 stones (originally 11), forming a rectangle 6 feet by 5 feet. Two stones form the east end of the grave, three the west end, three the south side, and two the north side. All

764 the stones are of undressed coral and of varying shapes, 7 to 30 inches long, 8 to 30 inches high, and 1 to 4 inches thick. The grave of the second Tongan warrior, Tokaipale, on the boundary between Loto and Ngake, consists of a double enclosure. The grave proper is now marked by five stones tracing a rectangle 8 feet long, 3 feet wide. This grave is enclosed by a low curbing 17 feet long, 7 feet 6 inches wide, of which there remain today 24 stones, each approximately 18 inches long, 6 inches thick, and 7 inches above ground. This grave is falling into ruin and many stones from the curbing have been removed.

The grave of a child in the cemetery of Walangaleala is a small rectangular enclosure 2 feet long, 1 foot 6 inches wide, made with small coral stones set on edge about 5 inches above ground. Pau noted that this was the grave of a dearly loved infant whose parents took this way of commemorating their love, instead of burying with a simple headstone and footstone.

[766] The grave of the chief, Te Kula, is situated to the east of and separate from the cemetery of Matanga. It is 10 feet long, 3 feet 7 inches wide, and is marked by eight stones, each about 6 to 12 inches high. Next to this grave is that of his children who were all buried in a canoe. Their grave is 30 feet long, 5 feet wide and marked by 26 small stones, each about 8 inches long, 8 inches high, and 1 inch above the ground. The stones are both rectangular and triangular.

[788] On Motu Ko is a separate grave, on the outer beach, of Tuanua who was killed as a thief, and another more elaborate grave, at the point Matauea, of a man named Walelula and his two companions who broke the tapu of the reserve and were killed for their sacrilege. Their relatives erected gravestones in the shape of a double shield to commemorate their death. The inner shield has the base to the east, the apex to the west; the base is 6 feet long, the apex 6 feet from the base line. The outer shield follows the outline of the inner shield, being from 7 to 12 inches from it, narrower where stones have fallen in toward the inner shield. The inner shield consists of 14 stones, the outer of 20, ranging from 1 foot to 3 feet 4 inches wide, 3 inches to 18 inches high, and 1 inch to 7 inches thick. The stones are undressed, mixed conglomerate and coral. No reason can be given for the peculiar shape of this grave save that relatives wished to build a personal memorial to the deceased men.

Of the many graves examined, two only were found lying off the customary east-west direction. One is the grave, lying northeast by southwest, of a man in the Loto cemetery of Walangaleala. Pau stated that this grave was oriented to face the principal cemeteries of Yato village because during life the deceased gained a great reputation for his ability to compose chants which upheld the glory of Loto and ridiculed the other two villages, especially Yato. When he died, relatives oriented the grave as if the deceased were still "guarding" the honor of his village against the verbal assaults of Yato. The second grave also lies northeast by southwest, close to the grave of Te Kula and his children. The reason suggested for this orientation was that the deceased, a man named Mangoa, was a close friend of Te Kula and wished to be buried next to the chief, but as his lineage gods differed from those of Te Kula, he requested that his relatives bury him facing the direction of the main religious structure of his god, Te Alongaua.

211 Commemorative gravestones (*wadi ole*) marking the place where a person was accidentally killed (though not buried) are of the usual undressed coral and mark out a rectangular area.

ARCHEOLOGY

172 Beyond the sinking of a trench across the site of an old religious structure, no opportunities presented themselves for the purposeful excavation of likely

172 sites. The only sites worth excavating on the atoll were old graves, but the
775 fear of ghosts is so intense that none would allow such excavation for fear of punishment—possible death—by outraged spirits of the dead.

That such excavation, however, might be extremely fruitful is shown by an involuntary excavation that occurred during our stay on the atoll. Yepina, assisted by relatives and friends, was digging the grave for his grandson in a Ngake cemetery. A near-by grave which contained the skeletons of two young girls buried before white contact was unintentionally struck. Talainga, who was assisting, asked one of the men present to go to Yato to call me to see the [778] objects contained in the grave. But Yepina, being in a hurry and feeling that he had committed an act of desecration in so clumsily opening the grave, refused to allow the messenger to leave the place. All the men present concurred, saying they had no wish to be plagued to death by the spirits of the
172 two girls. Before Yepina covered the grave, Talainga was able to make rough sketches of a few of the objects in it and to note down others that he saw.

764 Among the objects close to the skeletons were one large basaltic adz; several *Tridacna*-shell adzes; many fishhooks including three pearl-shell hooks; two with barbs, the other a plain hook of the *tope* type; several shanks from composite pearl-shell bonito hooks, one with two projections on either side of the distal end of the shank; several pearl-shell points, evidently original parts of the same hooks; many pieces of pearl shell of different shapes which were probably at one time strung together to make the pearl-shell ornament called *wua titi ui*.

Talainga suggested when he told me of the incident that there were many more objects in the grave than he could note, so determined was Yepina to repair his error. General opinion was that the two girls must have been favorite children of a sorrowful father, who buried a wealth of objects with the two corpses to show the depth of his sorrows.

WORKING IN WOOD

322 Implements used by the Pukapukan craftsman for working in wood include the *Tridacna*-shell adz, the drill, a shell awl, a whale tooth or coral rock mallet, shark or ray skin and coral scrapers.

ADZES

412 Adzes (*toki*) were made of *Tridacna* shell (*ngalipoyno*), as shown by Macgregor (20,fig.13).[a] They were attached directly to the haft (fig.21).
177 No rotary or movable adz was known.

Basaltic material from which adzes might be made was not available on the atoll. Legends of early canoe voyages relate that returning Pukapukan navigators brought back to the atoll stone from which adzes were made. At any time the number of these on Pukapuka must have been small, and they gained in value both from their more durable quality as working implements

[a] [See 2: McGregor, p.46 — Analyst.]

412 and from their scarcity. The quadrangular basaltic adz figured by Macgregor (20,fig.14) was picked up on the outer beach of Wale. It is similar
177 to Samoan type I adzes (27,p.334) and was perhaps imported from Samoa. A second basaltic adz was seen by Talainga in the old grave unintentionally opened. From Talainga's description and rough sketch this adz appears to be a triangular one, perhaps corresponding in shape to the Samoan type VII or VIII (27,p.351). It was 10 inches long, the back ground smooth, the front roughly chipped, and the poll rounded. The depth of the bevel was about 2 inches.

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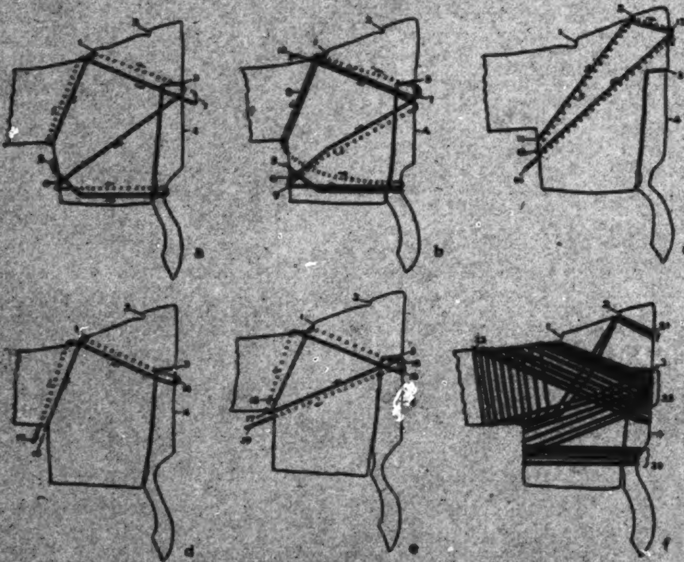

FIGURE 21.—*Tridacna* shell adz (C8105) with haft of [illegible] wood; length of haft from toe angle to slightly flared butt, 19 inches; haft round in cross section, average diameter being 1⅛ inches; at heel angle a prominent longitudinal ridge runs up to point of heel; above heel angle (see *a*) is cut a notch (1) to prevent lashing from slipping; ⅜ inch below point of heel a second notch (2) is cut, also to prevent lashing from slipping; 1¾ inches below point of heel on foot of haft is cut ⅜ inch deep shoulder (3), against which adz (4) fits to avert slipping when in use; because of irregular shape of poll of adz, shoulder is cut transversely on foot, so that distance from heel point on one side is 1⅛ inches, other side 2⅜ inches; lashing material three-ply sennit braid ⅛ inch thick. *a*, lashing commencement: commencement end of sennit (5) laid under toe angle, free end passing transversely around near side of toe and back across far side of toe and brought across toe angle to near side; grips commence-

412 284 ment end, and passes at 6, on near side, diagonally up to shoulder (3) where it grips poll of adz, passes across far side of heel, and is brought to near side over notch 1, across to toe angle; it makes a turn under toe angle, passes to notch 1, on far side, and then across heel on near side, gripping first diagonal turn (7) of sennit from toe to heel. *b*, continuation of lashing: free end (7) passes across shoulder (3) and across heel to notch 1, where it is brought across to near side and down (8) to near side toe angle; from toe angle it passes to far side of toe and makes a transverse turn around toe, coming back on near side and passing under toe angle (9) to make diagonal turn on far side up to shoulder; brought around shoulder to near side and passes across heel (10) to notch 1, where it passes down far side of heel to make further turns, as described, until four complete turns are made of which, for clearness, only two are shown in *b*. *c*, lashing of point of heel: fourth completed turn brings free end of sennit into position at 11, to make two turns around point of heel; sennit passes diagonally across near side of foot from toe angle to heel, crosses to far side of heel at notch 2, passes across heel and is brought to near side of heel (12) and diagonally down on near side to toe angle; sennit crosses under toe again (13), runs diagonally up to heel on far side and is brought across notch 2, to near side of heel, then across heel and diagonally down on far side to toe angle (14); sennit then ready to make two more turns, repeating diagonal movements between toe angle and heel; four diagonal turns in all, of which only two are shown in *c*. *d*, continuation of lashing: last turn of diagonal lashing brings sennit into position (15) for further turns; sennit passes on near side from toe angle to notch 1, where it lies on top of turns made as in *b*; sennit crosses to far side of heel, then crosses heel to shoulder (3) and goes around to near side of heel and across heel to notch 1 where it passes to far side of heel and down to toe angle (17), forming lower loop (16) of this phase of lashing. *e*, sennit (17) comes around under toe angle and goes diagonally across to heel; turn continued around heel to far side to make upper loop (18), then diagonally down on far side to toe angle; this brings sennit (19) into position to repeat turns as in *d* and *e*; altogether six turns are made, lower loop alternating with upper loop, and free finishing end of sennit brought up on near side of toe angle and buried underneath last two turns at heel angle. *f*, completed lashing: 20, first four turns made around toe, binding lower part of adz to toe of haft; 21, four diagonal turns around point of heel and notch 2; 22, final six turns, alternating lower with upper loop; 23, point where end is buried to complete lashing.

DRILL

321 The pump drill (*wou*) was formerly used to drill holes in wood and shell. It was of a common Polynesian design (fig. 22).

322 413 171 To drill a small hole or to drill fragile articles, a light balance was required; for this purpose one half of a dry coconut shell was put on the shaft by pushing the shaft through the soft eye of the shell, the eye part of the shell pointing downward, the open half of the shell pointing upward. To drill a large hole in hard material, a heavy balance was used, the wooden balance on a drill being reinforced if necessary with extra weights of wood.

The point of the drill was of shell or iron. Informants were at pains to point out that the Pukapukans were aware of iron long before white contact. They procured nails from pieces of boat wreckage which from time immemorial have drifted onto the [177] outer beaches. They burned the wreckage and combed over the ashes for nails hammered into the wood.

To drill is also *wou*. The worker started a hole by holding the shaft of the drill between the palms of the hands and rotating it. When he had made the slightest depression to hold the point, he worked the drill with the pump handle.

321 A craftsman took great care of his drill. He rubbed the shaft, crossbar and balance smooth with coral, smoked the wood over the cooking fire and oiled it afterward with 322 coconut oil. The fortunate possessor of a drill with an iron guard point guarded his implement jealously because as a time saver it was of the greatest value to him.

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AWL

322 The shell awl (*yuki vaka*), a shell *Terebra cranulata*, was used for making holes in a canoe hull or washstrake where the drill could not be used, or for enlarging holes made by the drill. (See p. 173.) The use of coral mallets for hammering caulking wedges is also described in that context.

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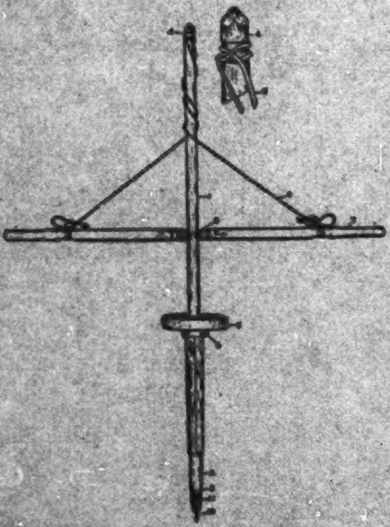

FIGURE 22.—Pump drill, *wou* (C8124): 1, shaft (*lahau tu*) of *tutau* wood 2 feet 6 inches long, round in cross section and ¾ inch in diameter above balance, square-sided below with sides ⅝ inch wide; 2, distal end of shaft is round, ½ inch in diameter, narrowing to distal point (3) ⅜ inch in diameter; 4, head (*uhu wou*) of shaft blunt and notched to receive pump cord (*uka wou*); 5, balance (*potoka*), 4 inches in diameter and ¾ inch thick, cut from same block of wood as shaft; 6, secondary balance 1⅛ inches square, ½ inch thick; 7, crossbar (*lahau wou*) of *wakanaru* wood, 1 foot 9 inches long, has wide groove (8) to fit against shaft; each end also grooved to receive ends of pump cord; 9, pump cord of two-ply twisted sennit, fastened with clove hitch to head of shaft and to each end of crossbar; 10, point (*mata*) section of iron forced into end of shaft and lashed tight with 11 transverse turns of three-ply sennit braid; 11, buried commencement and finishing ends.

SCRAPERS AND RASPS

412 Scrapers for smoothing wood were formerly selected pieces of coral
322 (*punga*) with rough surfaces (*talatala*). The smoothing (*oloolo*) was done with the wooden object submerged in sea water in order to soften the wood. The first scraping was with the *punga* coral, the finishing scraping with a
177 piece of *kana* coral which has a surface covered with tiny, sharp "teeth".

The use of wood scrapers to which shark or ray skin is lashed is modern in Pukapuka. Informants stated that although shark skin was used formerly for fashioning pearl-shell hooks, the idea of using it for smoothing wood was introduced from Samoa.

WORKING OF SHELL

227 Mother-of-pearl shell is termed *ui*. Other bivalve shells of about the same size and shape as pearl shell are also termed *ui* with an added adjective,
321 as in *ui pukeyea alongo*, to distinguish them from true pearl shell. Pearl shell is procured by grasping the shell with the hand and twisting it to break the tentacles. Thick shells were used for composite pearl-shell hooks, thin shell for ornaments and for single-piece shell hooks.

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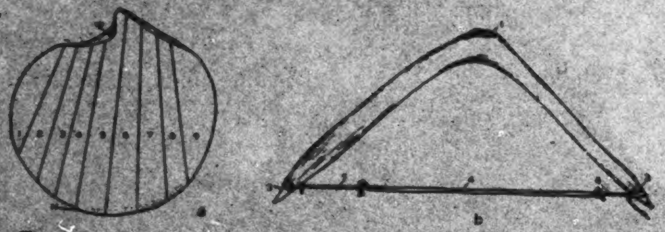

FIGURE 23.—Division of pearl shell; shell file. *a*, shell regionally divided into nine sections by cutting radially from hinge (10) to lip (11): preferred shanks for composite hooks cut from sections 4 to 7, other shanks from sections 1 to 3, 8 and 9; shanks for small composite hooks, single-piece hooks, and shell points for composite hooks cut from lip half of shell; named sections: 1, *tawo*; 2, *patauu*; 3, *pa ki te wua*; 4, *uyololoto*; 5, 6, 7, *uyoloto*; 8, *iyumotu*; 9, *okawa*. *b*, shell file (*kowana*) of shark skin (C8037): 1, frame, small branch of *wakawawa* wood with limbs 11 and 9 inches long; 2, 3, ends of limbs pointed and notched; 4, curled shark skin, 9½ inches long, ¼ inch diameter; 5, 6, suspension cords of two-ply twisted sennit, knotted to ends of shark skin, passed transversely around ends of limbs three times and knotted.

321 The whole pearl shell (*itu ui*) is regionally divided by the Pukapukans
227 into nine named parts (fig. 23,*a*). Radial sections cut through the hinge of the shell along these regional divisions are used for the shanks of bonito trolling hooks; the lip ends of these radial sections are used for small composite hooks and for bonito points.

321 The shell is cut along the section lines with the turtle-shell cutting implement (*taku*) or with a similarly shaped implement made from *punga* coral (*taku punga*). The edge of the blade is rubbed back and forward along the division line judged with the eye. A scratch is soon made on the nacreous surface of the shell. By further rubbing along this scratched line and by the addition at frequent intervals of water and sand, if the cutting implement is turtle bone, a narrow groove is formed which is finally deepened until the shell is cut through. A cut section of shell is shaped by rubbing and grinding with coral stone and water. Later the shape of a hook is filed out by the use of the shark skin rasp (*kauona*).

To smooth the outer convex surface of pearl shell, the shell is rubbed on a large piece of *punga* coral placed on the ground in front of the worker. Water is used copiously on the rubbing surface. At intervals the shell is dipped into a bowl of clear water or the surface of the shell is rubbed with the fibrous end of a ripe pandanus key to test the sheen and the stage of polishing reached. When the worker is satisfied that he has procured the desired color, he gives the surface of the shell a final polish by rubbing it vigorously with a dry pandanus leaf.

Lashing or suspension holes are made in shell pieces by the use of the pump drill.

Informants could suggest no ceremonial used in the manufacture of pearl-shell ornaments or composite hooks.

321 The shark-skin rasp is prepared as follows:

412 The skin of a freshly killed fish is submerged in fresh water for about eight days. The skin is pegged out in the sun with wooden pegs until thoroughly dry. It is cut into pieces of suitable length and attached to a forked branch. A piece of skin that is 281 flat longitudinally and transversely is attached to a branch to make the *kauona olo* used for smoothing and polishing fishhook shanks. For the *kauona uunga* which is used to cut out the curves of composite hook points and the bend of a single-piece hook, a piece of shark skin is scraped on the fleshy surface to remove the stiff membranes. This allows the skin to curl transversely and produces a file, round in cross section (fig. 23,*b*).

Shark skin is used for all purposes where a course abrasive is needed. The tail of the black ray (*wai hour*), also used as a file in the manufacture of pearl shell, is preferred by some because it lasts longer than shark skin.

CANOE CONSTRUCTION

501 Two types of canoe are used in Pukapuka today. One, the simple, one-piece, dugout canoe, is used for fishing inside or outside the reef. The 322 other, a plank canoe with washstrakes and bow and stern covers, is used for 511 fishing and for making expeditions to the islets of Ko and Kotawa. Canoe making is a craft still very much alive in Pukapuka and most households possess two or more canoes, one a dugout, the others larger plank canoes.

177 The single-piece dugout (*poti pukawa*) does not seem to be an old style canoe. The only name for it is *poti*, a word probably derived from the 501 English word boat; if this derivation is correct, it is evidence in support of informants' contention that the canoe style is new. Informants suggested 322 that formerly there were not sufficient big trees on the atoll to enable craftsmen to make single-piece canoes. The *poti* in use today is a simple hull balanced by outrigger and two cross beams.

501 Canoes built on old style models are the small plank canoe (*tutai*) with washstrakes, bow and stern covers; the large plank canoe (*vaka tui tuta*; pl. 5,*A*) with through and through lashing of the hull and washstrake sections; another large plank canoe (*vaka tui autali*; pl. 5,*B*) with inside flange lashing of the hull sections; the large double canoe (*taulua*) in which two canoe hulls are lashed together by cross booms. The number of outrigger booms in all types of canoes ranges from two to six, two being common. Multiple booms are used for some large canoes.

[825] 173 186 322 There is no origin legend for any of these types of canoe save the bare statement that the first canoes were modeled on the shapes of the whale and a species of shark. A fragment is told, however, which indicates an early consciousness in Pukapuka of the superior workmanship of Samoan canoe builders. Two Samoan craftsmen, Kaviki and Vailaki, came to Pukapuka during a voyage of exploration. During their stay in Pukapuka, they engaged in a competition to see who could build the better canoe after the Pukapukan models. Kaviki made a *tui tuta* canoe, Vailaki a *tui autali* canoe. In both, the hull sections were so closely joined that none could see the seams on the outside of the hull. There is no tradition that the two Samoans affected in any way Pukapukan canoe-building technique.

322 Preferred woods for canoe building are: *wukanawa* and *wetau* for hull sections; *puapua* for washstrakes and outrigger cross booms; *pukama* for the outrigger float; *ngangie* for outrigger connecting pegs, diagonal braces, and lifting bars. Most single-piece dugout canoes are built of *pukama* (hence its name, *poti pukama*), with outrigger float of the same wood and connecting pegs of *ngangie* wood.

322 501 FIGURE 24.—Medium-sized Pukapukan canoe in Bernice P. Bishop Museum: outrigger detached for storage; lashing together of canoe hull by through-and-through method; metal plates have been added to outside of hull joins to protect sennit lashings from being severed by sharp coral. (Reproduced from Macgregor, 22, fig. 8.)

FIGURE 25.—Six-boom canoe. *a*, view of starboard side: 1, bow section of hull; 2, middle sections; 3, stern section; 4, washstrake; 5, fore section of bow cover; 6, after section of bow cover; 7, forward wave guard; 8, stern cover; 9, after wave guard and bait deck; 10, stern cover decorative cleat; 11, bar rest for trolling pole, used also as seat; 12, spar below which lifting poles are inserted to carry canoe; 13, stern outrigger boom; 14, bow outrigger boom; 15, secondary outrigger boom made necessary by heavy weight of large outrigger; 16, middle outrigger boom. *b*, top view: 1, bow cover sections; 2, stern cover; 3, gunwale; 4, wider upper edge of hull; 5, outrigger boom, extending in this large canoe well beyond starboard side; 6, outrigger float; 7, secondary boom running to (8) longitudinal spar; 9, seat with hole for supporting mast, a modern method of support found on only a few canoes; 10, connecting pegs between boom and float; 11, diagonal brace between boom (5) and outrigger connecting pegs (10). Canoe lashed by through-and-through method, used mainly for transporting supplies between Yato, the village of its owner, and Motu Kotawa. (Reproduced from Macgregor, 22, fig. 9.)

1:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

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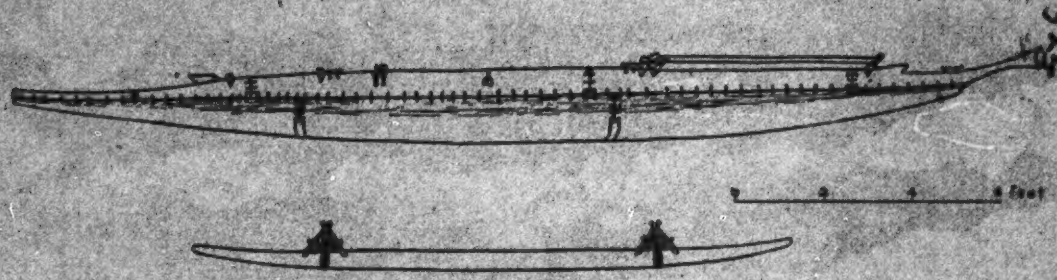

FIGURE 24.

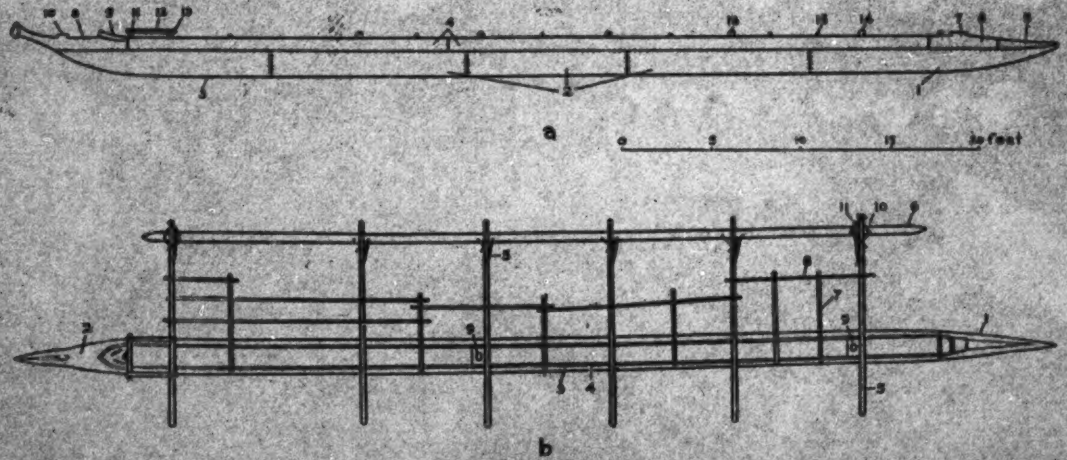
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FIGURE 25.

1.Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

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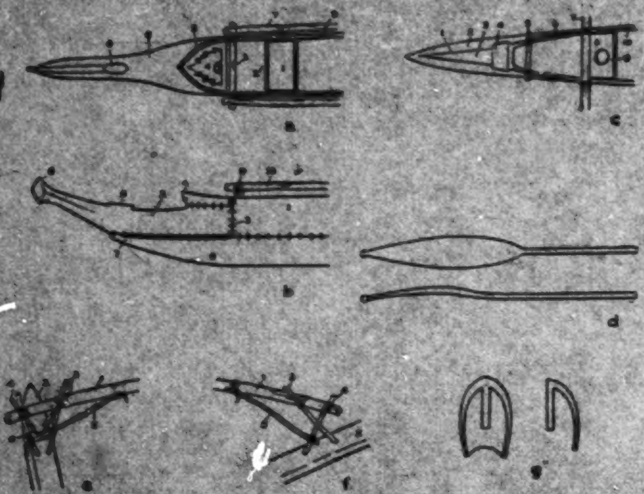

FIGURE 26.—Details of six-boom canoe. *a*, stern, top view: 1, stern seat; 2, groove under after edge of stern seat for holding bonito rod in place, sennit grommet in which handle of pole rests not shown; 3, groove cut in aft crossbar against which rod rests; 4, bait deck; 5, stern wave guard; 6, cleat on stern cover; 7, short longitudinal spar; 8, stern cover; 9, gunwale. *b*, view of starboard side: 1, washstrake; 2, stern cover; 3, through-and-through lashed join of washstrake and stern cover; 4, raised side piece of wave guard lashed to stern cover; 5, cleat; 6, fishtail-shaped stern cover; 7, outer rod caulking over join between stern cover and (8) after section of hull; 9, bar rest for trolling rod; 10, short longitudinal spar between which and top of washstrake (1) lifting poles are inserted. *c*, bow: 1, fore section of bow cover; 2, after section of bow cover, lashed join between fore and after sections not shown; 3, deck of bow cover; 4, bow wave guard; 5, forward cross lifting bar; 6, lashing of aft end of bow cover to forward end of washstrake; 7, bow outrigger boom, lashed across washstrake; 8, bow seat with hole (9) for forward mast (modern technique of stepping mast); 10, washstrake. *d*, canoe paddle (*voe*) of *pukava* wood, face and side view: handle 2 feet 4 inches long, about 1½ inches in diameter; blade 2 feet 7 inches long, greatest width 5½ inches; terminal knob 1¾ inches long, 1 inch thick; weight of paddle 3 pounds; one side of paddle blade convex transversely, slightly concave longitudinally; other side slightly convex longitudinally, flat or faintly concave transversely; distal end of blade with faint mesial transverse ridge which meets two edges (*kaurua*) of blade to produce terminal knob with four sides and blunt point; paddles range in length from 4 feet 8 inches to 5 feet 8 inches, blades 5 to 6 inches wide; size and weight depend on choice and strength of maker. *e*, outrigger boom, end attachment: 1, bow boom; 2, outrigger float; 3, inner pair of connecting pegs, crossed above boom and running obliquely outward to float; 4, outer pair of pegs; 5, diagonal brace between boom and after connecting pegs of inner and outer pairs; 6, suspensory lashing holding float to boom. *f*, middle boom attachments found only on larger canoes such as this six-boom canoe: 1, outrigger boom; 2, outrigger float; 3, inner connecting peg; 4, outer connecting peg; 5, diagonal brace between boom and outer connecting peg. *g*, canoe bailer (*tata*) of *wahaewa* wood top view and longitudinal section; handle projects from mesial line of top of back; sides and bottom rounded and meet at back in slight mesial longitudinal ridge which continues along outside bottom of bailer to meet customarily beveled lip (not shown); bailer 14 inches long, 6½ inches wide, 3 inches deep; lip bevel ¼ inch wide; weight of bailer 2 pounds. (Reproduced from Macgregor, 20, fig. 16.)

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192 The Pukapukan *tui tuia* canoe is shown in figures 24, 25, 26 and plate 5A. The native names for parts of the plank canoe are given in the following list:

Mua vaka: fore section of hull.
Wualoto: central section of hull.
Muli vaka: aft section of hull.
Oa: washstrakes.
Velo: stern cover, shaped like fishtail.
Laulau velo: after projection of stern cover.
Talamoko: raised cleat on stern cover.
Wakakauvae wonu: raised bait deck on stern cover, fashioned from cover or built up with extra wood.
Tuku: place inside wakakauvae wonu where bait and line are laid.
Kalemu: extreme after point of after section of hull.
Tala tuki: point of bow.
Tuki: forward part of bow cover.
Puka: second section of bow cover.
Tala puka: wave guard on bow cover.
Malae puka: top of wave guard.
Pu oyo: place covered by bow cover where provisions and fishing gear are stored.
Kaukau: outrigger cross booms.
Kaukau mua vaka: forward outrigger boom.
Kaukau muli vaka: aft outrigger boom.
Kiato: longitudinal spar supporting cross booms.
Manu poto: additional short cross booms, supporting kiato and running from strakes to spar.
Ama: outrigger float.
Mata ama: bow and stern points of outrigger float.
Tutuki: connecting pegs between outrigger float and cross booms.
Tutuki tokai: diagonal bracing strut running from inner pair of pegs to boom.
Oanga: suspensory lashing supporting outrigger float.
Manu ki mua: forward lifting bar.
Manu ki muli: stern lifting bar.
Manu a lua: crossbar aft of after cross boom.
Palepale langaya: short longitudinal spars lashed on either side of washstrake to lifting bar and cross boom.
Lakau iki: lifting pole.
Tuinga iki: sennit lifting loops fastened to starboard washstrake just aft of cross booms.
Yele: seats formed by cross booms and lifting bars.
Tau muli: rear seat just forward of rear lifting bar.
Kaukau katea: starboard side.
Kaukau ama: port side.

322 The hull is in three sections lashed together (*tuia*) with three-ply braid which passes through holes (*pu*) bored (*yuki*) through the hull with the shell implement
501 termed *yuki tuke*. A shell borer might be lashed to a wooden holder about 6 inches long, to make the implement called wene. The point of the shell was held against the
284 wood with the left hand and the wooden holder tapped smartly (*paopao* or *tukituki*) with a mallet of *kaupopo* coral or a whale's tooth (*tukituki paopao tuke*). The point was then worked gently from side to side (*luelue* or *wakiwaki*) to enlarge the hole. Tapping and working from side to side continued until a hole was made through the wood. The wene was then twisted (*yuki*) and worked back and forth until the hole was of the required size. The lashing forms a crisscross pattern (*lo hono loa*, fig. 27*d*). Washstrakes (*oa*) are added to the hull sections with a single diagonal lashing (*lo hono tai*, fig. 27*e*). Where the *oa* are in several sections, the edges of contiguous

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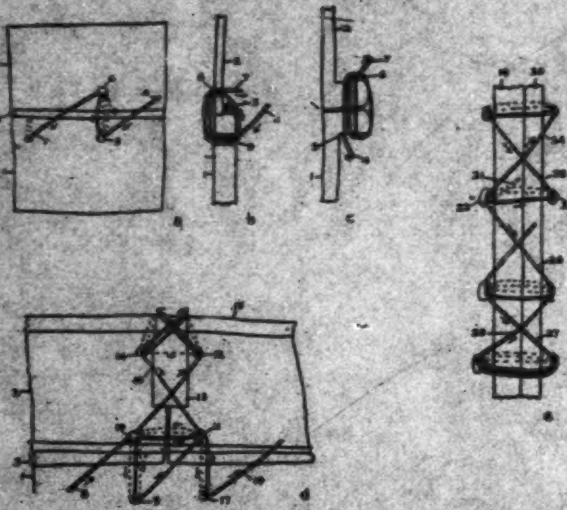

FIGURE 27.—Lashing of washstrake to hull: *a-c*, single diagonal lashing (*lu kawe tai*); *d*, double diagonal lashing (*lu kawe lua*); *e*, inside flange lashing. *a*, view of single diagonal lashing from hull interior: 1, hull section; 2, washstrake; 3, caulking stick (*tuke*) placed against caulking husk material; 4, commencement end of sennit passes from preceding hole down to inferior hole (5), through to hull exterior, and up to superior hole (6), then back through 6 to hull interior, down to inferior hole; makes one more turn and when brought back through superior hole a second time, passes down to inferior hole (7) ready for next turns. *b*, cross section of same lashing on *tui tolu* canoe (through-and-through lashing): sennit (4) makes two transverse turns through inferior and superior holes (5, 6), securely binding washstrake (2), hull (1), and caulking material (3); 7, free end ready to pass to next inferior hole. *c*, cross section of same lashing on inside flange canoe (*tui ao taki*): lashing (4) makes two transverse turns through holes (5) in hull and (6) in washstrake, and free end (7) passes to next pair of holes. *d*, lashing of contiguous sections of washstrakes by double diagonal lashing: commencement end of sennit (8) makes two transverse turns through holes 10 and 9 of washstrake and hull; free end passes to inferior hole (11) in contiguous washstrake section; one transverse turn made between holes 11 and 10, and on second turn sennit passes on outside of canoe, through to inside at hole 10 and diagonally up to superior right hole (12), securely gripping pandanus material (13) which is laid over join of washstrake sections as caulking; sennit passes through hole 12 and along on outside of washstrake to hole 14, back through 14 and diagonally up and over edge of washstrake (15); sennit continues down on outside of washstrake to hole 12, through to inside and diagonally up, over washstrake edge, down to and through hole 14; two more diagonal cross turns made over washstrake edge and free end of sennit brought back and through hole 14 to inside of washstrake; sennit (16) continues diagonally down and across to hole 11, passes through 11 and makes two transverse turns around hull and washstrake between holes 11 and 17; free end (18) passes up to next pair of holes

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sections are lashed by the *la hono* [illegible] lashing (fig. 27,d). Caulking material of dried coconut husk (*pulu* [illegible]) is hammered into the joins of hull sections with a chisel-shaped wooden caulker ([illegible]). The lower edge of the washstrake is set on the upper edge of the hull, flush with its outer surface. [illegible] ([illegible]) or coconut husk fiber is laid on the lower edge of the hull; on top of this caulking material is laid a filler stick ([illegible]). The lashing of strake to hull holds the caulking securely in place (fig. 27,b). The holes through which the lashing passes are caulked with coconut husk or wooden plugs hammered in from the outside with a rectangular-shaped wooden caulker ([illegible]). These plugs keep the lashing tight and prevent leakage and rotting of the lashing. The raised bait deck, which is fashioned from the stern cover or else built up with extra wood is shown in figure 28,a. The stern cover is lashed to the hull by through and through lashings (*la hono* [illegible]) and caulked on the outside by filler sticks ([illegible]). The two-piece bow cover is lashed to the forward section of the hull by through and through lashings.

The outrigger is attached to the canoe by cross booms lashed to washstrakes with the common alternating curved lashing which passes over the booms and through holes bored in the strakes. The longitudinal spar is also lashed to cross booms with the alternating curved lashing. The outrigger is fastened to cross booms by connecting pegs ([illegible]). Bow and stern cross booms are connected by four pegs; additional cross booms by two pegs. The points of the pegs are driven into the outrigger, but not lashed to it. The lashing of pegs to cross booms is shown in figures 28,d,f, and 28,b. A diagonal bracing strut ([illegible]) runs from the lower pair of pegs to the boom. The attachment of this strut to pegs and boom is shown in figure 28,c. A supplementary lashing ([illegible]) supports the outrigger and prevents it from separating from the pegs when the canoe is lifted. This lashing is shown in figure 29. The forward cross boom is shorter than the after cross boom. This enables the outrigger float to be fixed so that the fore end of the float is nearer the canoe hull than the after end (see construction, p. 184), an arrangement which makes the canoe easier to steer.

The fore lifting bar is lashed across the washstrakes forward of the forward cross boom. A stern lifting attachment is made by fastening a lifting bar across the strakes just forward of the rear bait deck. Short longitudinal spars are lashed on either side of the washstrake to the second cross bar and cross boom (fig. 30,c). To lift the canoe, lifting poles are thrust between these spars and the washstrakes from the starboard side and the canoe is lifted by upward pressure on the lifting pole. In large canoes, a lifting pole is also thrust through the lifting loop (fig. 30,b) and when the weight is taken, the distal end of the lifting pole rests on the port side of the washstrake. All Pukapukan canoes have an extension fore and aft of the [illegible] spar beyond the fore and aft cross booms, which is a certain nuisance in paddling on the port side of the canoe because the paddle, in being raised from the water, often strikes against this extension. However, to take a canoe through shallow water over the reef, the crew wades and drags or

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b, continuous single diagonal lashing of washstrake to hull is shown in c. [illegible] *d*, inside flange lashing of hull sections in *tai* or *tafi* canoe: 19 and 20 represent contiguous raised flanges of contiguous hull sections; 21, buried commencement end of sennit on outside of hull; sennit makes one transverse turn through holes 22 and 23, then passes diagonally up (24) to superior pair of holes; makes transverse turns through holes and passes diagonally down (25) to hole 22, makes one turn through holes 23 and 22, again binding commencement end (21); sennit passes diagonally down (26) to next pair of flange holes in hull, makes one turn through holes, passes (27) to next pair; two transverse turns made through lowest pair of holes and sennit brought back to pass diagonally upward (28) to next pair of holes, makes turn through holes, passes diagonally up to next pair; free end passes into hole 23, where it fastens by hammering of caulking wood into flange hole on top of free end.

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pushes the canoe, using the washstrakes and spar extension as shafts. The man in front stands between the side of the canoe and the spar extension, grasping the washstrake with his right hand and the *kiato* extension with his left. Similarly the man in the rear stands and pushes the canoe before him.

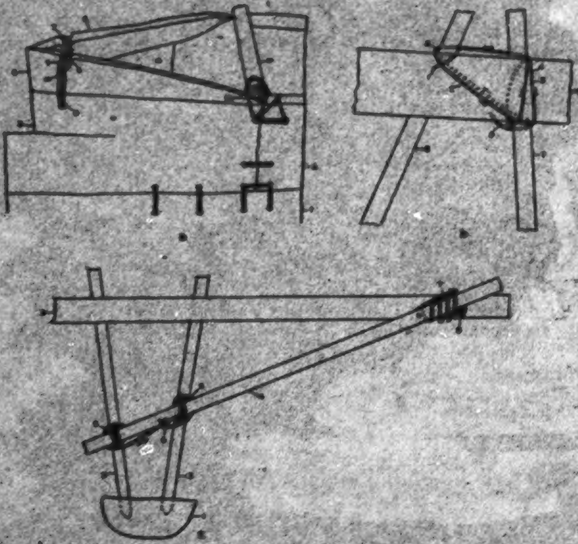

FIGURE 28.—Canoe construction. *a*, two-piece stern bait deck: 1, stern hull section; 2, washstrake; 3, section of stern cover (*velo*); 4, 5, fitted sections of wood placed on top of forward end of stern cover and lashed to cover by sennit which passes over notches 6 and 7 cut on edge of extra sections, and through hole 8, bored through head of stern cover; lashing consists of buried commencement (9), several transverse turns over notches and through hole, and buried finishing end (10); forward ends of added sections continued under first crossbar (11) lashed to washstrake on either side; lashing (12) securely binds in place added sections to washstrake; 13, platform of bait deck formed by top of stern cover. *b*, commencement lashing of connecting pegs to outrigger boom: diagram shows inner pair of pegs (7,8) and outrigger boom (9); 1, buried lashing commencement; sennit passes around far side of inner peg (8), then diagonally down (2) and across boom to near side of outer peg; continues around far side of peg, then diagonally up and across far side of boom and around far side (3) of inner peg; continues across far side of boom, around far side of outer peg and down (4) near side of outer peg, passing over earlier turn; continues underneath and up far side of boom, down (5) again on near side of boom, underneath outer boom, then ready to pass diagonally up on far side of boom across to top of inner peg (8); lashing continues with 6 figure-of-eight turns around connecting pegs and boom, then two circumferential turns around connecting pegs superior to boom; actual connecting pegs brought close together above boom so that thick sennit must be forced between pegs for two circumferential turns, and closeness of pegs holds turns tight; free end of sennit passes along boom to outer pair

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of connecting pegs and repeats lashing; free end passes down outer connecting peg to commence suspensory lashing around float shown in figure 29. *c*, lashing of diagonal brace (*tutuki tokai*) to connecting pegs and cross boom of outrigger: 1, cross section of outrigger float into which connecting pegs (2) are driven; 3, outrigger boom; 4, diagonal brace lashed to connecting pegs by alternating curves pattern lashing (5); lashing has buried commencement on outer peg; after completing lashing of outer peg, free end of sennit continues to inner peg, completes similar lashing; free end (6) fastened by double overhand knot to sennit that came from outer peg; lashing of diagonal brace to outrigger boom has buried commencement (7); free end of cord makes three or more transverse turns around brace and boom, then one or more circumferential turns around lashing turns between brace and boom and finishes with overhand knot on last circumferential turn (8).

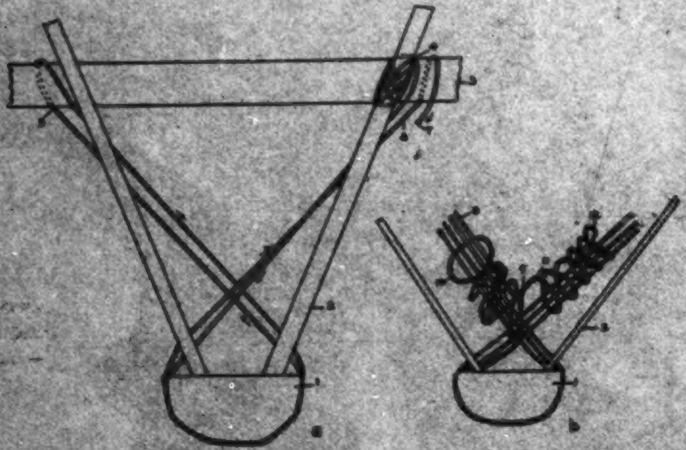

FIGURE 29.—Suspensory canoe lashing. *a*, commencement of lashing between outrigger boom and outrigger float: 1, outrigger float in cross section; 2, connecting peg between float and cross boom (3); when lashing (4) of outer connecting peg to cross boom is finished free end of sennit brought down between double pair of pegs (only outer pair shown in diagram) to inner side of float, passes around under float, up on outside of float and across to boom at 5, on hull side of inner peg; turn made over boom, and sennit brought down to outer side of float, around float, and up on inner side (6) to boom, making turn around boom on outer side of outer peg; sennit (7) continues down to float as before, making altogether five turns around boom and float (two turns only shown in diagram). *b*, continuation of suspensory lashing: after fifth turn (fourth in diagram), free end of sennit (8) brought down from hull side of inner connecting peg to pass around and under crossing of suspensory lashing (9) and continues up left hand suspension with two transverse turns; a complete final turn made around suspension, and sennit (10) brought back down suspension with two more transverse turns, continuing across to right hand suspension (11); five transverse turns made around right hand suspension with buried end finish (12).

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Flaws in the wood from which hull or strakes are made are cut out and in their place small sections of wood (*tapiki*) or larger sections ([illegible]) are fitted in by hammering and lashed if necessary to the surrounding hull or washstrake wood. Where the washstrake wood is not sufficiently deep, additional sections ([illegible]) are lashed with through and through lashing to the washstrake base until the required depth is attained. Small cylindrical plugs of wood (*tapiki* or *mono*) are hammered into small knot or flaw holes in the outrigger float to keep the salt water from lodging in them and rotting the wood.

When surfaces are being fitted together, whether hull sections, or washstrakes to hull, or small patch sections to hull or strakes, the parts to be joined are smeared with a marking material of coconut-shell charcoal mixed with water and applied with a brush made of the chewed fibrous material of the pandanus key. Irregularities in the fitting of the parts are brought out by black marks. These irregularities are then adzed down until a perfect fit (*ooe* or [illegible]) is secured.

In canoes used in bonito trolling, the rear seat is made of a block of wood which is lashed on either side with through and through lashings to each washstrake. A flange is cut on the under aft side of this seat and a sennit grommet ([illegible]) is lashed to the seat in the middle of this flange. The butt holder ([illegible]) of the bonito pole ([illegible]) rests in this grommet and the pole rests in a groove cut in the after lifting bar.

[501] The size of a canoe is indicated by the number of seats (*yoke*) it contains. But a *vaka yoke wa* (four-seater canoe) holds only three men comfortably; a *vaka yoke lima* (five-seater canoe) holds four men comfortably or five men if the hull is especially wide; a *vaka yoke ono* (six-seater canoe) holds six men. From this number of seats upward, the number of crew becomes greater than the formal seating capacity, so that a 60-foot canoe, officially rated as a *vaka yoke* [illegible] *ma tolu* (thirteen seater), easily holds 30 or more men. Those that cannot be accommodated with formal seats rest on the edges of the strakes. The size in feet of the various canoes is given below (p. 185).

The hull of the *tatai* plank canoe is of one piece in very small one-man canoes or of three pieces in larger canoes. The hull sections are as before, *mua vaka, waeloto, muli vaka*. Washstrakes are added and a simple bow cover (*pupuni ki mua*) and a stern cover (*pupuni ki muli*). These covers are shaped pieces of wood lashed to hull and to washstrakes (fig. 30,*e*). Very rarely, a small canoe of this type is fitted with the shaped stern piece (*talo*) and the type bow covers (*tuki* and *puka*). Outrigger support consists of two cross booms, connecting pegs, and suspensory lashing. The *tatai* canoe differs from the simple one-piece dugout in the addition to the hull of washstrakes and stern and bow covers. The size of typical *tatai* canoes is given below.

The plank canoe termed *vaka tui* [illegible] (pl. 5,*B*) is distinguished from the through and through lashed canoe (*vaka tui* [illegible]) by the lashing of hull sections to each other, and of washstrakes to hull, and washstrake sections to each other by means of raised inside flanges (*konga* [illegible] or *konga tui* [illegible]). These flanges are about 2 inches high and the lashing is through

322 holes drilled through each flange (fig. 27, *c, e*). No lashing shows on the outside of the hull. This lashing method may be applied to plank canoes 501 of all sizes from the simple *tatai* canoe to the largest canoe.

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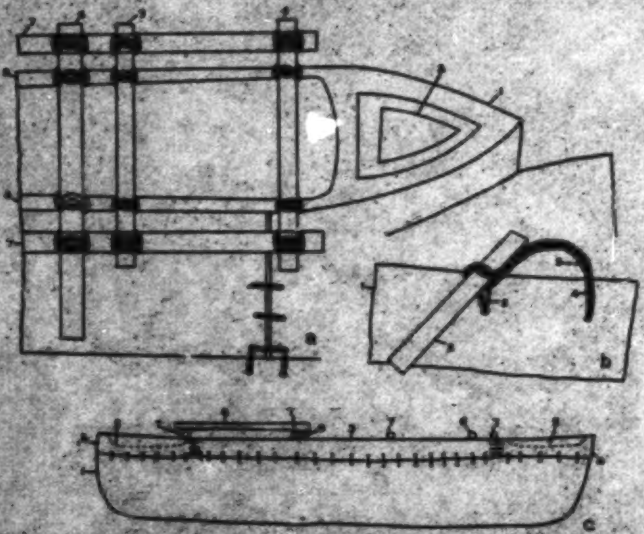

FIGURE 30.—Plank canoe. *a*, arrangement of lifting bars at stern of canoe: 1, raised bait deck ([illegible]); 2, bait receptacle ([illegible]); 3, washstrake of canoe; 4, cross lifting bar ([illegible] *ki muli*); 5, second cross bar ([illegible]); 6, cross boom supporting outrigger float; 7, longitudinal members (*palepale longaya*) lashed to cross members; lashings all of alternating curves pattern. *b*, lifting loops of sennit ([illegible]): 1, section of washstrake; 2, cross boom; 3, lashing of boom to strake; 4, four turns of sennit made through hole in strake and around lashing of boom to strake; 5, seizing of these four turns, buried commencement and finish. *c*, *tatai* canoe: 1, one-piece hull; 2, stern cover ([illegible] *ki muli*); 3, washstrake; 4, bow cover ([illegible] *ki mua*); 5, dotted lines show lowered bait decks in covers; 6, cross booms to outrigger float; 7, short lifting bars; 8, short longitudinal spars (*palepale longaya*) forming lifting supports for stern of canoe.

501 The *tui* [illegible] canoe has definite advantages for reef work over the [226] through and through lashed canoe because of the absence on the outside of the hull of lashings to be cut by sharp coral heads. It has this disadvantage, 322 however, that the water seeps in through the hull joins and rots the wood about the joins of the hull sections. This seepage cannot be prevented by caulking as with the outside [illegible] lashing. If a canoe is used much, the wood

501 about the hull joins is seldom dry, and after about 10 years the wood becomes so rotten that the flanges break apart. The only remedy is to take
322 the canoe apart, adz off the rotten sections of wood, and rejoin the canoe as a *vaka tui tuta*. The sennit lashing of the *vaka tui tuta* lasts about seven years before it rots. It is easily replaced if care has been taken of the
[283] canoe and the wood round the joins has not become rotten through unsuspected water seepage.

The customary Pukapukan canoe for deep-sea fishing or voyaging was
501 the single outrigger canoe. At various times, however, the double canoe
[226] (*taulua*) was made and used, particularly for regular fishing trips to Tima Reef. A time is remembered when three double canoes were in commission on the atoll. Tradition seems to indicate that the art of making double
177 canoes was introduced by returning Pukapukan navigators. The chief Wue (who lived about 14 generations ago) is reputed by some to have been the first man to build a double canoe in Pukapuka; he modeled it after one he had seen in his travels abroad. Lack of sufficiently large timber is given as the reason why few double canoes were built. No informant had seen a Pukapukan double canoe. The following brief description is based on traditional information only:

> The larger of the two canoes was to leeward and carried the two masts. The smaller canoe acted as an outrigger and was to windward. Cross booms (*kiato*) joining the two canoes were probably logs of pandanus, three booms being necessary to provide a stable support. Both canoes were completely decked with logs of *puapua* wood, save for holes or hatchways that served as bailing cockpits and gave entrance to stores and fishing gear loaded inside the hull of the windward canoe. Diagonal cross braces from the stern and bow of each canoe to the fore and aft cross booms were termed *tokoi*. A platform (*papanga taulua*) laid across the booms was occupied by the crew and passengers who also used the leeward canoe for shelter. On one part of the platform was placed a small house which functioned as a god house (*vale atua*). No details are preserved of lashings or sizes of these double canoes. But it is likely that the reason the single outrigger was the preferred canoe is that it could be made more seaworthy because the outrigger could be more strongly lashed to the hull than
> 502 on the big and unwieldy double canoe. The double canoe was steered by two or three steering paddles, one man steering from one canoe and the second man from the platform between the canoes. Should a sudden turn be desired, the two steersmen were reinforced by a third who assisted from the stern of the second canoe.

To change the direction of any canoe is [illegible] or [illegible]. The change of direction is to starboard (*ki katea*) or to port (*ki ama*). The bowman calls out the direction of change thus: *La ama!* or *La katea!* When the required direction is defined, he calls out: *Tawi ai!* (Hold it now!)

501 Variations on the fundamental construction pattern of the Pukapukan canoe are few:

> 322 In one single-piece dugout canoe, rather large for its type, greater stability was given to the two outrigger cross booms by projecting the ends of these booms about 18 inches beyond the starboard side of the hull and lashing to these ends a longitudinal

501 spar parallel to the customary longitudinal spar (*kiato*) lashed to the cross booms on the port side of the canoe. Informants also mentioned that formerly a big canoe made 322 for fishing off the grounds by Tima Reef was fitted with two stern pieces (*velo*). The *velo* was cut from a single wide block of wood and two fish-tail ends were adzed out instead of one. This variation was characterized as a type of decoration (*wakamanea*) without utilitarian function.

One canoe in active use had attached to the hull only half of the customary two-piece bow cover. The fore part of the bow, usually covered by the *tuki*, was open, but the after part of the cover, the *puka*, complete with wave guard (*malae puka*), was securely lashed to the hull. Informants remarked that this was an idiosyncrasy of the builder of the canoe. He had been faced by a shortage of wood during construction some years previously and had not since bothered to complete his canoe, but was on the contrary rather proud of its odd appearance.

SAILS

501 Two types of sail, both said to be old, are in use today when canoes sail to the islets. The first is a triangular sail, *la mata keokeo* (*keokeo*, pointed); 285 the second, a gaff sail, *la liaki o Te Palo*, named after the Yayake navigator 322 who visited Pukapuka. Both types of sail were formerly made of pandanus (*lau wila*) plaited in single element check (*langa tai*). The sail was made large enough to allow for an overlap which is basted over the sennit becket rope (*uwauwati ki loto o te la*) by which the sail is supported on the mast. (See figs. 31, 32.) The basting was done (*tui*) with pandanus material (*tua kie*) through holes made with a bone of the *akula* fish or a piece of *ngangie* wood. Sheets (*tupoupou*) of two-ply twisted sennit are fastened to the becket ropes by overhand knots.

501 Formerly the mast (*tila tu*) was made in two parts: a crotch (*tua manga*) was lashed to the mast pole (fig. 31,*b*). The mast was raised by resting the crotch end on 322 the forward cross boom (*koukou ki mua*). Several turns of sennit were made around the boom to prevent the crotch from slipping sideways. Stays (*tuku*) supporting the 284 mast are shown in figure 31,*c*.

The sail is supported by the top of the mast in one of three ways: the guy (*uwauwati*) by which the sail is hauled aloft may be passed through a hole (*pu*) bored through the top of the mast; the guy may be passed over a natural branch cleft (*tua manga* or *keheo*) at the top of the mast and passed down to the canoe; the becket (*pu*) in the peak of the sail may be passed over the top of the mast before the mast is raised—the mast is thick enough at this end to prevent the becket from slipping down. The last method is used only in small canoes. In all three methods when the sail is aloft the guy is fastened to the port side of the forward outrigger boom.

Today, the mast is usually long enough to rest against the bottom of the canoe. It is lashed to the forward cross boom with figure-of-eight turns of heavy sennit, or else the stay passing from masthead to forward lifting bar is continued back to the cross boom to make several turns around both mast and cross boom. Ultra-modern Pukapukan sailors step the mast in cup-shaped blocks cut out from the floor of the hull, or else lash to the washstrake planks with holes in them through which the mast is stepped.

The sail is further supported by a horizontal boom (*tila lalo*) with a crutch at one end, resting against the bottom of the mast just above the lashing of mast to cross boom. The other end of the boom (*ulu tila lalo*) is fastened to the sail by a becket. A main sheet ([illegible]) of sennit is fastened by a clove hitch to the boom from which it runs to

501 the hand of the sailor. When the canoe is sailing before a steady wind, the main sheet is fastened to a cross boom or lifting bar, or else it is gripped underneath the foot of

322 the sailor.

At the inner, lower end of the sail the becket rope passes from the sail and is now turned [illegible]. It is fastened to the forward cross boom, or else its two ends are tied

284 into a loop which is slipped over the crotch of the boom. Either method keeps the inner, lower end of the sail from bellying here in a high wind.

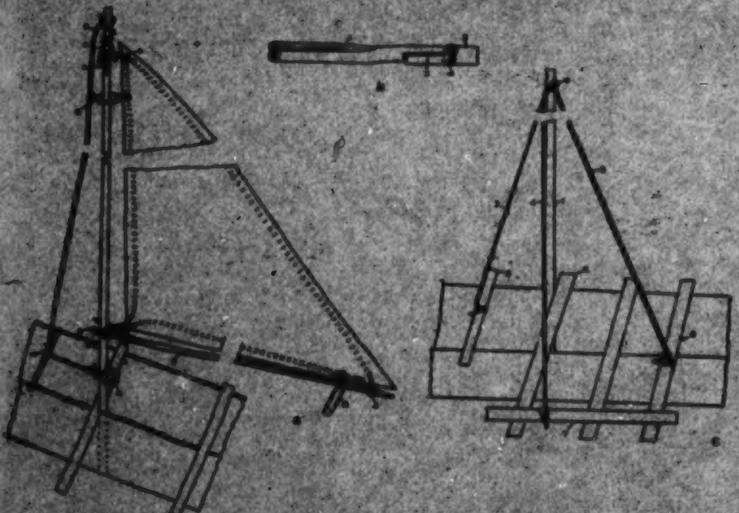

FIGURE 92.—Construction of mast and sail. *a*, mast and triangular sail ([illegible]): 1, cross boom; 2, mast; 3, boom with crotch end resting against mast; 4, outer becket, hooked over end of boom; 5, inner becket sennit ends, fastened with overhand knot in loop which passes over end of crotch to keep sail taut; 6, peak becket, fastened to guy by overhand knot; 7, guy passes through hole in mast and down to cross boom where it fastens; 8, mast stays passing to after booms as shown in *c* below; third mast stay (9) passes down to forward lifting bar, makes two turns (10) around bar and passes again to cross boom to make two turns (11) around boom and mast, holding mast in place against boom; overhand knot finishes turns; 12, sheet, fastened to becket sennit and to mast by overhand knot; 13, main sheet, fastened to becket sennit by overhand knot and passes to canoe aft. *b*, attachment of crotch ([illegible]) to mast spar: crotch (1) scarfed and fits against scarf (2) cut in mast spar (3); commencement of transverse lashing turns (4) which bind crotch and mast at scarf join. *c*, staying of canoe mast: 1, mast stands inside of canoe, lashed to cross boom (2) (lashing not figured); 3, 4, 5, stays fastened to top of mast by clove hitch (9); 3, forward stay fastened to forward cross lifting bar (6); 4, stay fastened to longitudinal spar (7) aft of cross boom; 5, stay fastened to middle cross boom (8) at washstrake; stays fastened to booms by clove hitches; weight of sail, filled by wind, provides counter balance on starboard side of canoe to port side pull of stays.

502 In a heavy wind, the mast of a triangular sail is kept vertical. To catch the greatest amount of moderate or light wind, it is heeled over to an angle of about 30 degrees with the vertical. The boom runs from the mast at an angle of about 60 degrees, and the sail functions thus with its base upward and the apex down. This is the usual way of mounting the triangular sail.

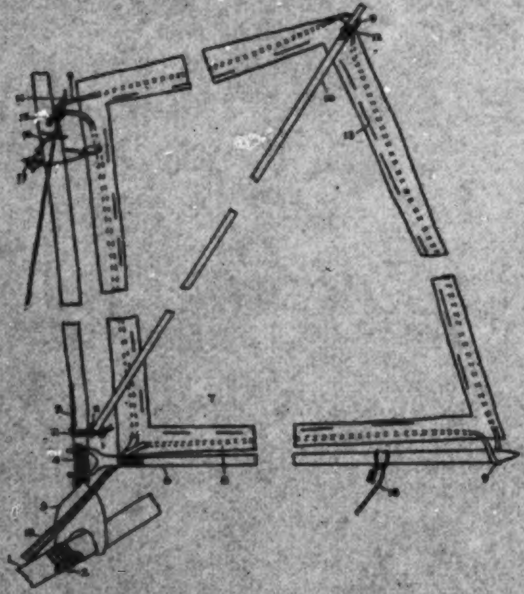

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FIGURE 32.—Mast and gaff sail (*la liaki a Te Pala*): 1, cross boom to outrigger, on which crotch (*vae manga*) (3) of mast (5) rests; 2, lashing on crossbar to prevent mast from slipping; 4, lashing binding crotch to mast spar (5); 6, boom with crotch resting against mast; 7, gaff sail; 8, becket sennit basted into overlap of sail; 9, beckets which pass over end of supporting spars and keep sail taut; 10, sprit or gaff which extends outer peak of sail, resting at lower end in snotter (11) of sennit made by taking clove hitch around mast and tying free ends of sennit in overhand knot; at upper end of sprit, becket prevented from sliding down spar by lashing turns (12) taken around end of sprit; 13, heavy lines indicate sewing of overlap to hold becket sennit; 14, natural branch cleft (*vae manga*), over which becket loops when sail is hauled up by means of guy (15) fastened to becket by clove hitch; 16, stays run to booms to support mast (see fig. 31, *c*); 17, sheet fastened to becket sennit with overhand knot and looped around mast with double overhand knot; only one sheet shown, but average sail has about six sheets for mast and for boom; 18, main sheet, fastened to boom by clove hitch, runs to sailor seated aft in canoe; 19, two ends of becket sennit (*muli la*) pass to, and are fastened around, cross boom (1).

501 An extra sail support is needed with the gaff sail (fig. 30). This sprit is termed *toko*. At the lower end it rests in a snotter (*[illegible] ma te toko*) fastened to the
502 mast. In a strong wind blowing directly aft, the gaff sail is supported by a further stay that runs from the head of the sprit to the stern cross lifting bar, occasionally to the curve of the stern piece around which it is fastened.

For a one-man canoe for sailing to the islets, a rough-and-ready sail is made from a coconut-leaf mat (*takapau*). A pole is stepped in the canoe and lashed to the forward cross boom. The midrib side of the mat is fastened to the pole with sheets of coconut fiber (*kalawa*) and the outer edges of the mat stayed by guys passing to the hand of the sailor who sits in the stern of the canoe and steers. A *takapau* mat catches ample wind to speed along a small canoe.

The mast of any Pukapukan canoe is mounted at either end of the canoe, the outrigger being invariably kept to windward. The canoe can not tack without unshipping the mast and setting it up at the other end of the canoe. Sailing fast (*halali* or *yolo*) in a heavy wind, some members of the crew rest their weight on the outrigger cross booms in order to counterbalance any tendency of the outrigger to lift out of the water. Under sail a Pukapukan canoe lies close to the wind, but tends to make rapid leeway for want of a keel.

PADDLE AND BAILER

The Pukapukan paddle (*hoe*, fig. 26,d) has a projecting knob (*mata*) at the distal end of the blade. This knob has a dual function. It protects the blade (*laulau hoe*) when the canoe is being poled over lagoon shallows, and, when the paddle is brought from the water with a sharp wrench after a short jab stroke, the knob makes, in contact
226 with the water, a short, sharp, ringing sound (*hoa tangi te hoe*), used to attract fish to the fishing canoes. It is a very characteristic sound in Pukapukan paddling, and
536 whenever it is necessary to imitate a canoe in May Day play festivals, a file of men walk about making this sound with their lips, at the same time raising and lowering their arms.

The paddle is used on both port and starboard sides of the canoe. The outrigger does not offer great impediment to the typical short, jabbing strokes of the Pukapukan paddler. Any paddle is used indifferently for steering and paddling. Formerly the paddle was always held with the back (*tua*) turned toward the rear of the canoe. This usage (*alo tua*) is reserved today for short sports and for making the paddle resound, the front (*alaalo* or *wakatuku*) of the paddle being now customarily directed toward the rear.

Each canoe has as part of its equipment a long pole (*toko*) used for poling the canoe over reef shallows. Some canoes returning to Wale from Motu Ko hug the reef circuit and make good speed with two people poling, one in the bow and one in the stern.

501 The bailer (*tata*, fig. 26,g) is of common Polynesian type. It is not decorated with
415 carving. In use, the bailer is not filled, lifted, and emptied over the side of the canoe, but water is gathered from the bottom of the hull and shot out with one vigorous and continuous scoop. In small canoes, an empty coconut shell serves as a bailer.
171

MEASUREMENTS

501 The principal measurements of seven Pukapukan canoes are given in
322 Table 3. These measurements may be compared with those of the 13-seater canoe shown in figure 25.

The amount by which the forward end of the outrigger float is set to starboard to assist the steering qualities of the canoe ranges in the canoes measured from 2 to 6 inches, with an average of about 3½ inches. Pukapukan canoe builders gave no rule

501 922 for judging this amount, but said that they judged by the eye. Kennedy discovered from a study of canoes of Vaitupu that the "limiting amount by which the forward end of the float is set to starboard is about one hand's breadth from a line through the after end of the float parallel with the hull" (19, p. 94); this amount agrees closely with the Pukapukan average for this starboard set, though there seems to be little correlation between the size of the canoe and the amount of starboard set considered necessary. The required balance weight of the float seems to be obtained almost entirely by lengthening the float, for the width and depth of the float do not vary greatly save for the larger canoes. The length of the float in relation to the overall length of the canoe indicates that the Pukapukan builders unconsciously judged the float length by some such rule as Kennedy (19, p. 79) gives for Vaitupu where the outrigger is given a length such that the forward end will be laterally opposite the feet of the bow paddler and the after end opposite the feet of the rearmost paddler. Again, Pukapukan builders could give no rule for judging the proper length of the outrigger float save by eye judgment.

Table 3. Canoe Measurements

501

Type	1 Overall Length	2 Beam (Gunwales)	3 Beam (Bilge)	4 Depth (Center Canoe)	5 Length, Forward Canoe Boom	6 Forward Canoe Boom, Hull to Outrigger	7 Rear Canoe Boom, Hull to Outrigger	8 Length, Longitudinal Float	9 Length, Outrigger Float	10 Width, Depth, Outrigger Float	11 Length, Stern Piece (Top to Gunwale Line)	12 Length, Bow Piece (Top to Gunwale Line)
Single dugout (large)	20'	14"	14"	16"	7' 3"	6' 3"	6' 7"	9' 10"	12'	5⅛"×4⅝"	—	—
Three-sectioned one-man canoe	18' 6"	10"	8"	17"	5' 9"	4' 7"	4' 5"	6' 4"	7' 8"	5"×3"	—	—
Three-sectioned two-man canoe	19'	11"	9"	10"	6' 6"	5' 7"	5' 10"	9'	12' 5"	6"×4"	4' 3"	3' 9"
Yoke two 3-seater	16' 6"	11"	7"	13½"	5' 6"	4' 10"	5'	9' 6"	12'	5"×3½"	3' 6"	3' 7"
Yoke one 4-seater	21' 11"	14"	11"	18"	6' 6"	4' 8"	5' 1"	10' 4"	16' 6"	5½"×4"	3' 11"	3' 6"
Yoke one 6-seater	26' 6"	15"	11"	20"	8' 1"	5' 10"	5' 10"	15'	23' 6"	7"×4"	5' 2"	4' 7"
Yoke two 8-seater	31'	23"	14"	27"	6' 6"	7' 6"	6' 3"	23' 6"	32' 6"	7"×7"	—	—

FISHING EQUIPMENT

227 Besides fishnets (p. 208) and hooks (p. 191), fishing equipment includes lines, fishing rods, composite fishing apparatus, clubs, fish spears, and bait containers.

FISHLINES

226 Lines of coir fiber are used on composite pearl-shell fishhooks where quality rather than length of line is important. Three-ply braided sennit

226 lines are used for deep-sea fishing where both length and strength are desirable. These are made in three lengths, each from 50 to 75 fathoms long. The three lengths, called respectively *kaun lalo, kaun loto, kaun lunga* (sennit bottom, middle, top), are tied together with prominent knots. In paying out his line the fisherman feels the knots as the line runs through his hands to gauge the depth at which he is fishing, and is then able to fish at the depth at which he believes the particular fish bite best. Anchor lines of thick three-ply sennit braid are in continual use for deep-sea fishing. For tiny fish such as *lupo* a line of single pieces of coconut fiber is used with a gorge of pandanus spine.

227 One such line (C8043) wound round a wooden holder consists of 34 lengths of
284 coconut fiber, each about 10 inches long, knotted together; the line is finished with one length of very fine two-ply twisted *wao* and a snood of the finest single ply twisted *wao*, total length being 32 feet.

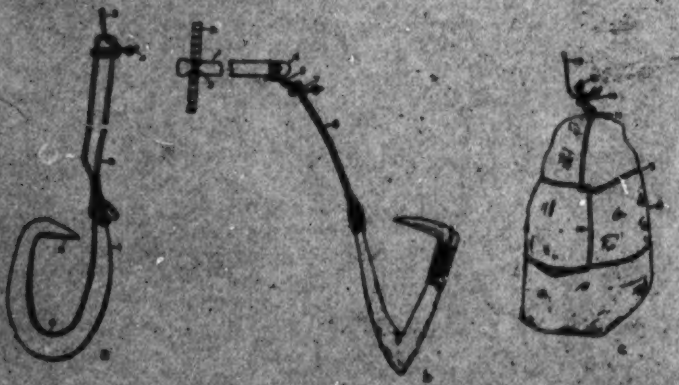

FIGURE 33.—Fishing equipment. *a*, attachment of double snood to fishline (shown diagramatically): looped double snood (2) lashed to shank of coconut-shell fishhook (1) with descending figure-of-eight turns; end of fishline (3) knotted (4); free end passes around loop and back on far side of loop, then over near side, through top of loop and pulls tight. Coconut-shell hook (*tope ugaipu*) (C8186) 3¾ inches high, 1⅝ inches in greatest width with point-shank clearance of ¾ inch; band ½ inch wide, ⅜ inch thick; inner edges of point (5), band (6), and shank (1) beveled slightly. *b*, composite fishing apparatus (*tuumakomako*) (C8190): spreader stick (1) attached to secondary snood (2); snood lashed with diagonal turns (3) of fine *wao*; at distal end of stick (4), short piece of *wao* (5) doubled and lashed to stick with transverse turns; snood (6) of hook is knotted to doubled *wao* (7); wooden hook (*kau*) small with scarf join accentuated. *c*, sinker for apparatus: sinker (8) block of coral (*punga*); one end of anchor line (9) makes two transverse turns around sinker, other end (10) caught by turns; at top, two free ends fasten with double overhand knot (11), then looped, and ends fastened again with overhand knot (12); sinker line proper (13) from fishing apparatus knotted in loop (14).

227 Secondary snoods (*matai*) are made of twisted *uwo*. They are either
284 single or double. Single snoods are fastened to fishline by knotting. Double snoods seem to be a feature of coconut-shell fishhooks. The attachment of these snoods to the fishline is shown in figure 33,*a*.

Many lines used in fishing from the beach (*wakamoe* system) are wound on a wooden holder (*muli pokai*), their hooks supported by floats.

RODS

226 For *kaloma* fishing, reef and lagoon angling, and trolling with a composite
284 pearl-shell hook, the fishing line is attached to a rod (*matila*). The total length of fishline attached to the rod is several feet longer than the amount of line necessary for a cast.

The fisherman judges the length necessary for a cast and makes at this point a clove hitch round the distal end of the rod. The free end of the attachment line he carries down the rod, making a single transverse turn with a single overhand knot round the rod at equal intervals. Toward the proximal end of the rod, he makes several transverse turns round the rod and fastens the free end of the line to the standing line with an overhand knot. For carrying to and from the fishing ground, the casting line with hook attached is laid along the rod, a transverse turn fixed with a single overhand knot is made round the rod toward the proximal end, and the free end of the casting line carried up the rod again; the hook is caught in one of the transverse turns made round the rod by the attachment line.

227 The *kaloma* rod, *matila kaloma* (C8137), is made of *puapua* wood, 4 feet 6 inches long, ¾ inch in diameter at the proximal end, ⅜ inch diameter at distal end. The line
284 is very fine two-ply twisted *uwo* (about the thickness of no. 50 cotton thread). The casting line is about 4 feet 6 inches long, the attachment line 14 inches long.

A larger fish rod for needle fish (*matila yi akuaku*) and reef fish is also made of *puapua* wood (C8098); it is 8 feet 9¼ inches long, ¾ inch in diameter at the proximal end, ⅜ inch in diameter at the distal end. The line is fine two-ply twisted *uwo* (about the thickness of coarse thread). The casting line is 12 feet long, the attachment line 5 feet long.

The attachment of bonito hook line to the bonito trolling rod (*matila atu*) is by a clove hitch to the distal end of the rod. Where more than one hook is attached to the same rod, the several clove hitches are fastened round the rod below each other (fig. 34,*a*). The bonito line, of thick three-ply twisted *uwo*, is about 20 feet long and is attached to the rod at a point about 10 to 12 feet from the hook, depending on the length of casting line that the fisherman desires. The free end of the line is wound round the rod with oblique downward spiral transverse turns and tied about the middle of the rod with an overhand knot. The free ends of several attached hooks wound thus round the rod produce a pleasing pattern lashing on the rod.

The bonito rod is fitted into a wooden handle (*tukau*) which has an upper grooved part into which the proximal end of the rod fits, a raised flat projection (*malae tukau*) covered with netting, and a handgrip (*muli tukau*) at the end. The shape of the handle and the method of lashing the rod are shown in figure 34,*b*. The completed lashing resembles the completed Samoan lashing of bonito rod to handle (27, p. 503) though the technique of lashing differs slightly.

The netting covering the flat projection above the handgrip is made by the ordinary netting technique and is fastened round the handle by transverse cords that pass through the marginal meshes above and below the projection. When lines and hooks are attached to the rod, the casting line is carried down the rod and the hooks caught through the netting meshes. For use, an appropriate hook is selected, disengaged from the netting meshes and allowed to hang free from the distal end of the rod. If fish do not bite this hook, it is replaced in the net and another hook disengaged. With six or more hooks attached to the rod at one time, the fisherman is able with maximum speed and minimum trouble to select the hook which the fish prefer to bite.

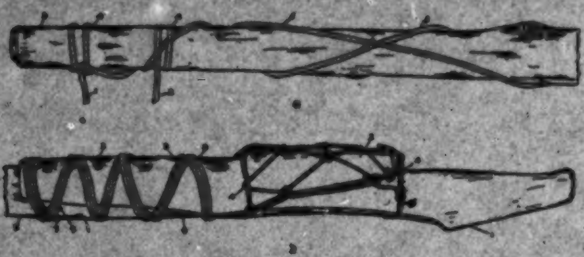

FIGURE 34.—Bonito rod. *a*, attachment of casting line: 1, 2, casting lines attach two hooks to distal end of rod (3); 4, clove hitches made around end of rod; casting lines hang free; attachment lines (5) wound spirally around rod and fastened halfway down rod. *b*, attachment to handle (*tukau*), side view: 1, handle of *wakawaowao* wood with handgrip (*mali tukau*); 2, raised flat projection (*malae tukau*); 3, hollowed out upper part; raised projection covered with netting (*epa*) fastened to handle by cords passing through marginal meshes (4); rod (5) pushed into hollowed upper part, chocked if necessary with small wedges of wood (6); lashing of three-ply braided sennit commences with buried end (7) at upper end of handle, then wound around handle and rod descending spirally, then up handle and rod ascending spirally; continues alternate spirals, descending and ascending, for three turns each way (8), and finishes with buried end (9).

NOOSES

Noosing apparatus consists of a line of three-ply twisted *wao* about 18 feet long and a stick (*kau*) by which the noose is brought near the fish.

The stick (C8152) is of *puapua* wood, 6 feet long, ⅝ inch in diameter at the proximal end, ⅜ inch in diameter at the distal end (fig. 4,*c*). The distal end is notched to provide a running groove for the line on which a running noose (*matapili*) is made with a slip noose (*mayi*). Line and handle together are termed *kauyele*.

COMPOSITE FISHING APPARATUS

For deep-sea hand line fishing from a stationary canoe outside the reef (*tukumoana* system), a composite fishing apparatus (*taumakomako*) consisting of a number of hooks attached to one line is used.

Of two types of *taumakomako* in use, one (C8190) has a secondary snood (*matai kaura*) of three-ply sennit 6 feet 8 inches long. At a point 2 feet from the proximal end of this snood a *ngangie* spreader stick, 5¾ inches long, ⅜ inch in diameter, is lashed. The proximal end of the stick is grooved circumferentially and the snood fastened to the stick by four oblique transverse turns of fine two-ply twisted *wao*, followed by three circumferential turns between stick and snood, the finishing end being buried

227 284 in three transverse turns round the snood (fig. 33,*b*). Five spreader sticks 9 inches apart are attached to the snood in this way, being lashed so that the distal ends of the sticks project alternately to the left and to the right of the snood. The distal end of each spreader stick is also grooved circumferentially, and a length of twisted sennit, 1¼ inches long, is doubled and the free ends fastened to the spreader stick groove by transverse turns of fine sennit. To this double spreader stick snood, the fishhook snood proper is fastened by the method of knotting illustrated in figure 33,*b*. Five fishhooks are attached to the five spreader sticks. By making these sticks project alternately to left and to right, the danger of tangling the hooks in use is avoided.

Informants mentioned another type of *taumakomako* formerly in use. It consisted of two crossed spreader sticks of *ngangie* wood, each stick about 18 inches long, with a cross section diameter of about 1⅓ inches. To the ends of each spreader a snood was seized. The four snoods ranged in length from 2⅓ to 6 feet so that four fish caught on wooden hooks knotted to each snood would not tangle the snood lines. At the intersection of the spreaders, a sinker line (*kowutau taka maene*), 12 inches long, was fastened to suspend the sinker (*maene*) of *punga* coral. Also at the intersection of the spreaders was knotted a secondary snood (*motoi*) 12 feet long. To the *motoi* was fastened sennit fishline about 200 fathoms long.

SINKERS

For fishing at moderate depths of 50 or 75 fathoms, sinkers (*maene*) consist of any coral stones of suitable weight picked up on the beach. Because these sinkers are disengaged from the line and fall to the bottom when the hook has reached the required depth it is pointless to use any but rough stones. In *tukumoana* fishing, one sinker weighing about 9 pounds is used repeatedly. Even for this the Pukapukan fisherman has apparently felt no incentive to make well-shaped or bored sinkers. He chooses as a sinker stone a block of coral that is roughly rectangular or cone-shaped. If the surface is not rough enough to hold the sinker line without slipping, it is chipped slightly to form two transverse grooves into which the sinker line fits. This line is attached to the sinker by transverse turns and knotted to the secondary snood (see figure 33,*c*). [226]

FISH CLUB

227 Fish clubs (*patu ika*) are made of *ngangie* wood; their size and weight depend on the fish which it is proposed to kill with them. A small club is used for *patuki* and other reef fish caught in reef angling or canoe fishing.

This club (C8169) is shaped like a small talo pounder with a blunt proximal end. It is 16 inches long, 2 inches in diameter at the distal end, 1 inch in diameter at the proximal end. The distal end is slightly convex. The club weighs 1¼ pounds. Larger clubs weighing up to 5 pounds are used for larger deep-sea fish. Today a section of iron bar is often used as a fish club.

HOOK CONTAINERS

[415] When not in use, small, valuable single and composite pearl-shell hooks are kept in the house stored in the double satchel (*tuluma pa*) described elsewhere (p. 134). Hooks and small fishing gear when taken into a canoe are kept for safety in a coconut-shell container (*puha*).

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An example of this type of container ([illegible]) is a smoothly polished coconut shell, the eye end of which has been cut off to make a container 4 inches high, 2¼ inches in diameter at the mouth. The mouth is covered with another half coconut shell (*[illegible]*), which fits tightly over the container.

Fishbone gorges used in fishing needle fish are kept when not in use by sticking them into a gorge cushion (*papa ou*) which consists of a small cylindrical section of shaped coconut husk. The gorge cushion may itself be kept in the coconut container by the fisherman out in his canoe.

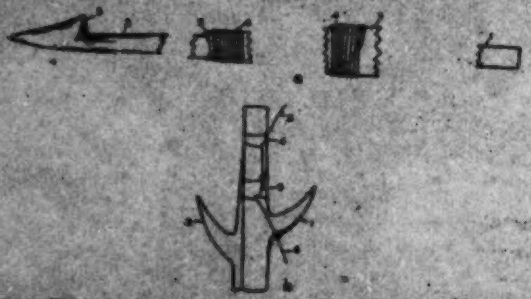

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FIGURE 35.—Fishing equipment. *a*, fish spear (*[illegible]*) ([illegible]): 1, shaft of *[illegible]* wood 10 feet 3 inches long, diameter at proximal end ([illegible]) ¾ inch, widest diameter of haft 1⅛ inches; 2, 3, barb (*[illegible]*) of *[illegible]* wood, 1 foot 9 inches long, ½ inch diameter; 2, point (*[illegible]*) of barb 2 inches long, cut in ½ inch; sharpened stem of barb forced (5) into pithy core of *[illegible]* wood for 3 or more inches and held tight with 73 turns of two-ply twisted sennit (4); commencing and finishing ends buried; at point (5), observable projection above lashing of haft. Second fish spear, examined in field, was one-piece point and haft of *[illegible]* wood, 8 feet long; barb 6½ inches long; proximal end finished with small terminal knob. *b*, gorge of pandanus spine (*[illegible]*) ([illegible]): 1, 2, two spines (thorns) stripped from pandanus leaf and placed together so that barbs project on either side; spines joined together by snood (3) of finest [illegible] fiber with two pairs of half hitches (4, 5); 6, free end of snood serves as bait tying string (*[illegible]*); length of gorge ½ inch, width 1/16 inch.

FISH SPEAR

Most fish spears in use today are thin iron rods or wooden shafts with iron points. Formerly both shaft and barbed point were of wood. A typical spear is shown in figure 35,*a*.

GORGES

Two types of gorge (*ou*) are in common use: one of fishbone is used for catching the needle fish; the other, of pandanus spine, is used for the tiny *lupo* fish.

The fishbone gorge is a bone of the *[illegible]* fish about 1 inch long. The snood of fine two-ply twisted [illegible] (*[illegible]*) is fastened to the hook below the head by four half hitches (*[illegible]*). The free end of the snood serves as a bait string (*[illegible]*).

1;Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

227 A bait of [illegible] flesh is wrapped round the bone and the bait fastened with several turns of the bait string. When not in use, the gorge is pushed into the gorge cushion.

The gorge of pandanus spine (*[illegible]*) is described in figure 25,*b*.

HOOKS

Pukapukan fishhooks are made of wood, coconut shell, pearl shell, and turtle shell. The generic name for a wooden hook is *kau*; for a shell hook, *patuia* or *matau*; for a composite hook, *pa*. Single-piece hooks are further named according to their size and shape. The hook is conveniently divided into shank, bend, point limb, and point. The Pukapukan equivalents for these and other terms are shank or point limb, *kaukau*; outside of the bend, *wali*; inner curve of bend, *liu*; point, *mata*; barb, *wakatala*; shank knob, *leke*; terminal or proximal end of shank above knob, *tileo*.

227
284 In use, each hook has a snood (*[illegible]*) lashed to the proximal end of the shank. The end of the three-ply twisted or braided snood is unravelled and laid against the inner side of the shank knob with the end of the braided section resting against the proximal end of the shank. One ply is placed to the right; the other two plies, which are treated as a single element, to the left. The first ply is passed transversely round the shank to the right, under the knob on the outer side, then round to the inner side again to pass diagonally upward to the snood where the free end of the ply is laid against the braided portion of the snood. The other two unravelled plies pass to the left, transversely round the shank, under the knob but on top of the already wrapped first ply, round to the inner side of the shank to pass diagonally up to lie against the braided portion of the snood.

The lashing of snood wrapping to shank is done with braided sennit or [illegible] cord. The lashing pattern is figure-of-eight turns in which crossings are on the inner side of the shank and the loops are alternately above and below the shank knob. The figure-of-eight turns are either ascending or descending (*[illegible]*) according to the choice of the worker. The Pukapukan lashing technique corresponds to that described for Manihiki (29, pp. 171-172, figs. 84, 85). In the ascending pattern lashing, the commencement end is buried and the free finishing end makes seizing turns round the snood to bind the unravelled ends of the snood securely to the length of the snood. The finishing end is buried under several of the transverse seizing turns. In the descending pattern lashing, the commencement end may be buried under seizing turns round snood and free snood ends, before the figure-of-eight turns are commenced; the finishing end is buried beneath the last two descending turns. Alternately, the lashing commencement may be buried below the free ends of the snood, but after the lashing turns are completed, the free end of the lashing cord is carried up to the snood and the seizing turns made before the finishing end is buried. A third variation occurs when the wrapped unravelled snood plies are too short to lie against the snood; in this case, the commencement is below the snood, the finishing end is buried beneath the last two turns, and there is no need for seizing turns round snood.

The use of bait strings (*[illegible]*) is a common feature of most hooks. If the buried end of the lashing cord is long enough, it is not cut off flush with the finishing turns, but is allowed to hang free. If the free end of the lashing cord is not long enough to serve as a bait string, an additional piece of fine cord is fastened to the bend of the hook with a slip knot. In use, the bait is laid on the hook and several turns are taken round bait and hook with the bait string.

WOODEN HOOKS

227 Wooden hooks vary greatly in size according to the fish they are designed to catch. Small wooden hooks are used interchangeably with the single-piece pearl-shell hook (*tope*) for catching in deep water the smaller reef groupers. Large wooden hooks are used to catch *Ruvettus* and other large deep-sea fish. All wooden hooks are termed *kau*; the largest V-shaped hook is sometimes distinguished by the name *yemo*, the largest U-shaped hook by the name *yowe*.

Wooden hooks are of two shapes, the U-shape and the V-shape. All the hooks are made from *ngangie* wood; most of them from forked branches, [245] some of the U-shaped ones from branches that have been artificially bent and made to grow in this position. The hooks are two-piece, the point being fitted to the point limb with a lashed scarf join. The upper end of the shank is narrowed and provided with a shank knob to support the lashing of snood to shank.

227 284 In larger hooks used for *Ruvettus* and other deep-sea fish, the lashing of point to point limb may be in two or three separate sections. This occurs in five of the eight deep-sea fishhooks available for study. The remaining three hooks are freshly lashed, probably by inexpert fishermen who knew that the hooks, intended for a museum collection, would never be used for fishing. The middle of three lashings is put on the smaller hooks about 1 inch below the bend of the functional point, 2 or more inches below this point on larger hooks. After the transverse turns completing this lashing have been made, the lashing is covered by tough fish scales (*unoui*) of the *malotea* fish which project above and below the lashing. The ends that project below are caught with the transverse turns of the lowest lashing, those that project above are caught with the turns of the topmost lashing. The fish-scale covering protects the middle lashing from being destroyed by the biting teeth of a hooked fish. Because it is usual to protect only this middle lashing, one may assume that a hooked *Ruvettus*, for example, is expected to swallow a hook to the point where his jaws close on this middle lashing, not on the lowest or topmost lashing. The free end of the lowest lashing is carried up over the fish scale covering to commence the topmost lashing; even if this longitudinal thread is severed, the topmost lashing can not become unravelled because the free end is effectively buried in the descending turns. (See lashing in figure 37,*c*.)

The clearance between the point and the shank limb varies greatly among the hooks. In small wooden hooks the clearance ranges from ⅛ to ¾ inch, in the larger hooks from 1¼ to 3½ inches. Kennedy states that the required clearance is equivalent to the thickness of the edgewise thumb with the point against the middle of the nail (19, p. 17). Four out of 12 hooks have approximately this clearance, four small hooks have less than this clearance (about ⅛ inch), four large hooks have a much greater clearance (up to 3¾ inches). Leaving aside the four smallest hooks used to catch smaller deep-sea fish, I presume that four of the remaining eight wooden hooks used for large deep-sea fish were probably made for ordinary fishermen, the other four for expert fishermen who prefer the hook with the wide clearance. Both types of hook, those with wide and those with narrow clearance, were in common use.

[322] In several of the hooks the point is directed away from the mesial longitudinal line of the shank limb. Presumably the explanation for this in the Pukapukan hooks is the same as that given by Kennedy for Ellice Islands hooks (19, p. 16), that is, the manner in which the scarf surface was cut on the point limb, previously with an adz, today with knife or saw.

1:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukan

221 Of six V-shaped wooden hooks available for study, four are small hooks attached to the *toumakomako* apparatus used to catch small deep-water fish. (See figure 33, *b*.) These hooks are about 2¼ inches high (from the outside bottom of the bend to the top point of the shank) and 1¼ inches in greatest width (from outside of point limb to outside of shank limb). The clearance between functional point and shank limb is about ⅜ inch. In two hooks, the shank leaves the point at an angle of 40 degrees; in the other two, at an angle of 45 degrees. In all four hooks, the snood is three-ply twisted wao cord which is attached to the shank by descending figure-of-eight lashings of fine wao cord. The free end of this lashing is carried up to the snood and seizes it with several transverse turns. The single lashing of point to point limb is by transverse turns with buried commencement and finishing ends. The lashing of a larger hook is shown in figure 36.

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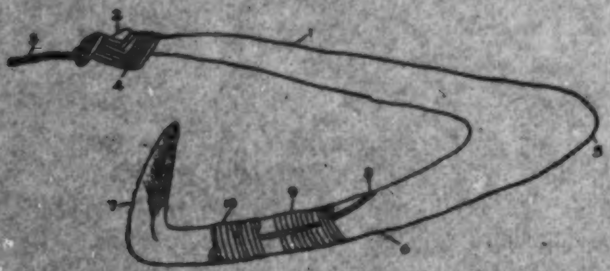

FIGURE 36.—Wooden hook (*hau*) of *ngangie* wood (C6526): hook 5 inches high, 2¾ inches in greatest width, and ⅜ inch clearance between point and shank; diameter of shank (1) above bend ⅝ inch, thickness of bend (5) from outside bottom of curve to inner curve 1⅜ inches; angle of shank limb with point limb 50 degrees; snood (3) of three-ply sennit braid attached to shank with descending figure-of-eight turns (4) around shank knob (2); point limb (6) and point (7) scarfed (8) and fastened with two separate lashings; lower lashing (9) made first with simple transverse turns, free end being carried up to commence second upper lashing (10); functional point (7) transversely convex on top, beveled underneath, and projects slightly downward. (Reproduced from Macgregor, 20, fig. 7.)

221 A larger V-shaped hook (termed *yewe*) with a rounded and downward curving point is shown in figure 37,*a*.

Between the V-shaped and the U-shaped hook may be distinguished an intermediate type of which there is one specimen for study (fig. 37,*b*). This is an old hook which has been relashed. Owing to a natural twist in the shank limb, the top of the shank is twisted out of the mesial longitudinal plane running through the bend and point. It is this twist and not that of the point which makes the point appear to be directed away from the mesial longitudinal line of the shank limb.

Of five U-shaped hooks, four appear to have been made from artificially bent wood, one from a forked branch that had a natural inner curve to the bend. The naturally curved hook is shown in figure 37,*c*.

Of the three other U-shaped hooks, the smallest is 4⅜ inches high, 3 inches in greatest width, ⅜ inch between point and shank; the second hook is 8¼ inches high, 4¾ inches wide, 1¼ inches between point and shank; the third hook (termed *yewe*) is 12⅝ inches high, 8 inches wide, and 3¼ inches between point and shank.

SINGLE-PIECE HOOKS

Pearl-shell Hooks

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Single-piece pearl-shell hooks are made in many sizes to catch all varieties of lagoon fish and most of the smaller deep-sea fish. The hooks are named according to their size and shape. For accurate classification, the name of the fish which the hook is made to catch is usually added to the type name

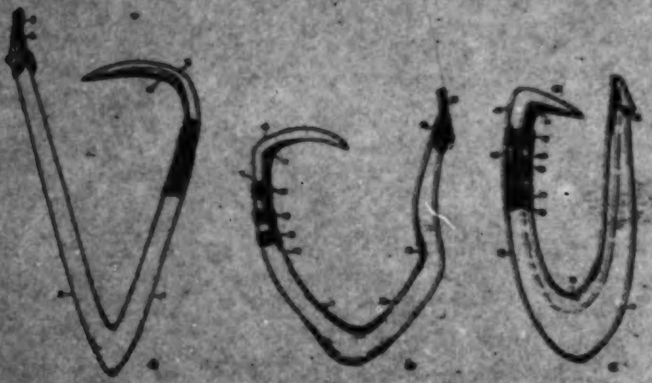

FIGURE 37.—Wooden fishhooks. *a*, large V-shaped hook (*yaroa*) of ngangie wood (Chope): hook 13¼ inches high, 7 inches in greatest width, point-shank clearance 6¼ inches; diameter of point limb (1) and shank (2) above bend, ¾ inch; height from outside bottom of bend to inner curve, 1¾ inches; angle of point limb with shank limb 35 degrees; point limb and point (3) scarfed and lashed together with 30 turns of three-ply braided sennit; point flat on inner surface (4) and curves slightly downward; snood (5) of thick three-ply braided sennit attached to shank with descending figure-of-eight turns; free lashing end passes upward to attach snood (6). *b*, intermediate-type wooden hook (*hou*) of ngangie wood (Chesil): hook 10 inches high, 6¾ inches at greatest width, point-shank clearance 2¾ inches; diameter of point limb (1) and shank (2) above bend, each 1 inch; thickness of bend about 1¼ inches; shank has inward bend (3), above which shank bends backward and away from usual longitudinal plane; snood (4) lashed with descending figure-of-eight turns (5); point (6) and point limb (1) scarfed (7) and fastened together with three separate lashings (8, 9, 10); point slightly flat on inner curve of bend (11), then curves up and down at point. *c*, narrow U-shaped wooden hook (*hou*) of ngangie wood (Chona): hook 9¾ inches high, greatest width 2½ inches, point-shank clearance ⅝ inch; shank (1) ¾ inch diameter above bend, ⅝ inch diameter immediately below shank knob (2); bend of hook (3) 1¾ inches high from outside bottom of curve to inner bend and 1 inch thick; point (4) lashed to point limb (5) with three separate lashings; middle lashing of six transverse turns (6) made first, lowest lashing (7) second, free end (8) carried over middle lashing to make top lashing (9); remains of fish scale protective covering of middle lashing shown (10); point flat underneath (11), beveled on either side on top (12); distal end of point projects downward.

227 of the hook. The hooks are made from black- or gold-lipped pearl shell and provided with snoods of wue cord. They may be classified by shape into
284 three types: a U-shaped hook, a circular hook that is usually barbed, and a slanted U-shaped hook that may be barbed.

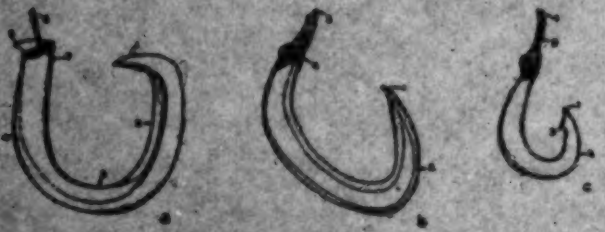

Figure 98.—Shell fishhooks. *a*, pearl-shell hook (yeli haloma) ([illegible]): hook [illegible] inch high, [illegible] inch wide, and [illegible] inch thick; point (1) short, making point-shank clearance comparatively wide; inner and outer surfaces of point limb (2), bend (3), and shank (4) beveled; shank head (5) flush with proximal end of shank; snood of finest two-ply twisted wue (6) fastened to shank by three transverse turns, with free end of snood line which effectively holds snood fast to shank; finishing end (7) tucked under turns and held tight; bait string (not shown) of wue fiber wound around bend of hook. *b*, barbless, slanted U-hook ([illegible]) of gold-lipped shell ([illegible]): hook 1 inch high, [illegible] inch wide; edges beveled, but owing to irregular shape of shell, point directed away from medial longitudinal line of shank; point (1) bends slightly from point limb (2); wide point-shank clearance; snood (5) of wue cord fastened to shank by lashing assumed to be descending figure-of-eight turns, but very irregular (4) owing to fact that worker suffered from bad eyesight. *c*, pearl-shell hook ([illegible]) for albacore ([illegible]): hook 2 inches high, 1½ inches wide; edges beveled; point (1) bends slightly from point limb (2); barb (3) rises from point at acute angle, barb-point edge straight, beveled slightly; wide point-shank clearance; snood (4) of three-ply wue cord fastened to shank with descending figure-of-eight turns; finishing end of lashing covers snood for length of ¾ inch at 5.

[226
171] U-shaped hooks. Small U-shaped hooks (yeli) are used for beach angling and for catching the smaller lagoon fish by other fishing methods.

An example of the yeli hook (fig. 98,*a*) is minute and almost as wide as it is high. It was used for catching *haloma* fish before European pins came into use. It is a beautifully made hook and shows craftsmanship of high order. The term *yeli* is applied to hooks of this general shape up to about 1 or 1¼ inches high when the name *tope* comes into use. *Tope* hooks are U-shaped, but tend to be higher than they are wide. The name is also applied to hooks of other material such as turtle shell or coconut shell which have this general shape. The type *tope* hook of pearl shell is shown in figure 99,*a*. Other *tope* hooks in the Bishop Museum collection range in height from 1¾ to 1¾ inches and in greatest outside width from 1 inch to 1¼ inches. They are made of gold- or black-lipped shell; descending or ascending figure-of-eight lashings attach the snood of two- or three-ply wue cord to the shank of the hook. They are provided with bait strings.

227 **Circular hooks.** Circular pearl-shell hooks (*matau* and *wahoroa*) are made with a barb (*[illegible]*). Most of these hooks are as wide as they are
284 high, but the size of the barb varies considerably (fig. 39,*b*). In most hooks, the functional point is level with the lowest transverse turn of the snood lashing, directly opposite a point about 3/16 inch below the proximal end of the shank.

In one hook examined in the field, however, the inner curve of the hook was almost a perfect circle, the functional point being on a level with the top of the snood lashing and the proximal end of the shank. Another unusual feature observed on an old hook of this type was a pronounced terminal knob at the proximal end of the shank, separate from, and other than, the customary shank knob which was also cut on the outside of the shank.

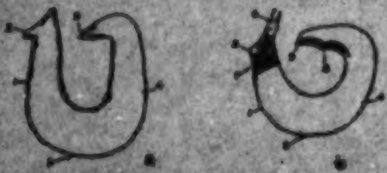

FIGURE 39.—One-piece shell hooks. *a*, U-shaped hook (*tepe*): greatest length 2 inches, greatest width 1½ inches, point-shank clearance ⅜ inch; *b*, circular hook (*matau* or *wahoroa*): greatest length 1½ inches, greatest width 1¼ inches, point-shank clearance ¼ inch; barb (*[illegible]*) markedly concave and beveled; snood thick two-ply *olona* cord fastened to shank with descending figure-of-eight turns. 1, shank; 2, shank knob; 3, bend; 4, point limb; 5, point; 6, snood; 7, snood lashings; 8, barb. (Reproduced from Macgregor, 20, fig. 4.)

226 There can be no doubt that the barbed hook is native to Pukapuka and
176 antedates European influence. The first man to make the barbed hook is said to have been Te Upe, a man of Loto who lived in the reign of Maina, twelve generations ago. His name is mentioned in connection with barbed hooks in an old chant "Ulu taku tangi". Beasley (4, p. 34, pls. XLIX A and XLIX B) figures six hooks of this type apparently collected by Gill prior to 1877. Beasley attributes the hooks to "Pukapuka, Paumotu group", an evident mistake. The figured hooks range in height from 1⅓ to 2⅓ inches.
227 **Slanted-U hooks.** Slanted U-shaped hooks, large enough to be called *wakaolo* or *wahorua* and used for albacore fishing, have barbs. Small hooks of this type without barbs are called *tei [illegible]* (fig. 38,*b*) and are used to catch the smaller reef fish.

These hooks are much higher than they are wide. The point limb is short compared with the length of the shank and the functional point bends only slightly from the plane of the point limb. The barb runs from the point at a very acute angle making a large point-shank clearance (fig. 38,*b*, *c*).

Despite a superficial similarity in shape of the hook shown in figure 38,*c* to European fishhooks, informants were positive that this type of barbed fishhook was native

227 Pukapukan. Their contention is supported by the fact that Gill collected a hook of this shape before 1877. Beasley (4, p. 34) figures the hook in plate XLIX A, no. 2.

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Turtle-shell Hooks

Single-piece hooks of turtle shell are made in two shapes. One shape corresponds in all respects to the *tope*, U-shaped hook of pearl shell, and is used for the same fish as the pearl-shell *tope*. The hook of turtle shell is termed *tope onu*. A characteristic hook of this type (C8223) is 2 inches high, 1½ inches wide and has a uniform thickness of ¼ inch.

A smaller turtle-shell hook termed *kawilo* is used in fishing for lagoon fish with a line from the beach. The type hook is about ⅝ inch high, ¾ inch wide, ⅛ inch thick at the bend. The point-shank clearance is wide. Owing to the fine work necessary, the snood is attached to the shank only with three figure-of-eight turns.

Coconut-shell Hooks

Most hooks cut from coconut shell are made in the shape of the *tope* pearl-shell hook and are called *tope ngaipu*. They are used on the *taumakomako* composite fishing apparatus and also singly in fishing for the smaller deep-sea fish outside the reef.

The hook is cut from the dry shell from the end opposite to the eyes. One side of the hook has the dark brown color of the outer surface of the coconut shell; the other side has the light brown color characteristic of the inner surface of the shell. The hooks (fig. 33e) have a pronounced longitudinal convexity and a slight transverse concavity on the dark brown side. The edges forming the inner curve of the hooks are bevelled slightly. The hooks have double or looped snoods attached to the shank.

A small hook (C8185) is 2¼ inches high, 1½ inches in greatest width; it has a point-shank clearance of ½ inch. The inner curve is a pronounced U-shape, with a greatest inner width of 1 inch. The looped snood is attached to the shank with descending figure-of-eight turns, the finishing end being buried beneath the last two turns.

COMPOSITE HOOKS

Composite pearl-shell or pearl-shell and turtle-shell hooks (*pā*) are used for trolling and for fishing reef fish. They fall naturally into two classes, the bonito hook (*pa atu*) and the small composite hook, distinguished from the bonito hook by the addition of the name of the fish caught with them to the generic word *pa*.

Bonito Hooks

The bonito hook is a two-piece hook consisting of shank (*pa*) and point (*wanga*). The point is pierced with holes (*pu*) through which it is lashed to the distal (*muli*) end of the shank, along with the hackle (*wakamaunu uwo*). The line or snood (*taka* or *wakamaunga*) is passed through the proximal hole of the point, attached to the shank by a lashing that passes

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through a hole ([illegible]) in the thick proximal end of the shank, and seized ([illegible]) by a lashing thread ([illegible]) passing from the proximal hole of the point to the shank head. The distal end of the shank on the underneath side is cross-hatched ([illegible]) to prevent the point-shank lashings from slipping, and filler sticks ([illegible]), short pieces of coconut leaflet midrib, are pushed underneath the point-shank lashings on either side of the point base to steady the point on the shank.

The following description of the type Pukapukan bonito hook (fig. 40) is summarized from an examination of 28 Pukapukan bonito hooks, 11 of these in Bernice P. Bishop Museum, 17 in the field. Terminology employed for parts of the hook is that established by Buck. Lashings are described with the hook horizontal, point to the right, shank head to the left.

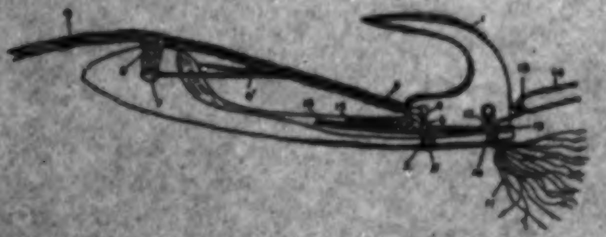

FIGURE 40.—Type Pukapukan bonito hook (C8188): point (1) of gold-lipped shell, beveled at functional point, head, and outer angle; proximal lashing (2) and snood (3) pass through proximal hole (4); oblique lashing turns on back of shank (5); lashing thread (6), after overhand binding knot around proximal lashing, makes two turns through head hole (7) and proximal hole (4); after last turn through proximal hole, thread seizes snood (3) and its previous turns through head hole; lower threads occasionally left out for short distance and then included again in seizing of snood; toward head, lower threads (6') dropped and seizing continues to head hole; head lashing (8) consists of transverse turns around snood and through head hole, bound with circumferential turns; seizing of snood continues for about 1 inch above head hole (9); distal lashing (10) of point fixes hackle (11) with oblique transverse turns; half hitch binding (12) of distal lashing; thread passes around distal end of point; makes another binding around far side distal lashing, loop knotted (13) and cut to make secondary hackle (14); hackle (11) consists of number of fine threads of [illegible]; filler sticks (15) of coconut leaflet midrib pass under both lashings on near and far sides; shank 3¾ inches long; greatest width of head ½ inch, height of head ½ inch; width at tail ¾ inch; thickness of tail ⅛ inch; length of filler sticks 1¾ and 1½ inches; length of point base ⅞ inch; thickness of point ⅛ inch.

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The shank is made of strips of shell cut radially through the shell so as to include part of the hinge at one end. The shank length ranges from 3 to 4¾ inches. The length of the hinge-head section in relation to the total length of the shank varies according to the size and thickness of the part of the shell from which the shank is cut. In the hooks examined, length of the hinge-head section of the hooks ranges from [illegible] to 3 inches (fig. 41). The width of the tail end of the shanks ranges from ¼ to ⅝ inch, thickness from ⅛ to 3/16 inch.

227
321 The nacreous inner surface of the shell forms the front of the shank, the rough outer surface of the shell, the back of the shank. The back is sometimes longitudinally flat, more often convex with a slight transverse concavity also. It is ground down to remove the dull rough material and to bring out a clear shiny iridescent or golden surface toward the distal end of the tail. Different surfaces are described in the ordinary color terms: *tua wela tolo*, a deep gold shank back; *tua kena*, a light iridescent color; *tua pula*, a pronounced rainbow iridescent color.

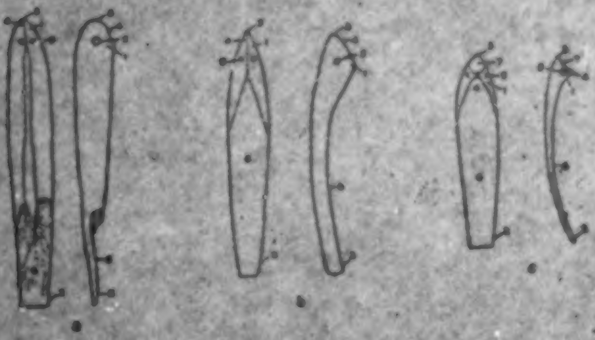

FIGURE 41.—Variation in bonito hook shanks, front and side views. *a*, long shank (C3206) with mesial ridge, slight grinding of head end, short tail section; *b*, type shank (C3187) with well-marked head, tail thicker than usual; *c*, small shank, head has short ridge caused by grinding of proximal end. 1, head; 2, tail; 3, head point; 4, mesial edge; 5, head hole; 6, front nacreous surface; 7, head point ground into concave surface.

A hole is bored transversely from side to side about midway down the thickness of the head. In one shank two such holes were bored, one at the extreme proximal end of the shank, the other nearer the maximum thickness of the head. Only the distal of the two holes carries the head snood lashing and it is evident that the proximal hole was bored by mistake too far back on the head to function properly.

The tails of the shanks are uniformly smooth on front, back, and lateral surfaces. In the opened grave (p. 164), however, Talainga saw a bonito shank that had two paired lateral projections at the tail end of a narrowing shank. He could give no information about the shape of the head of this shank, but the lateral projections are suggestive of similar projections on Melanesian hooks of the Solomon Islands. None could give any information about the shank type. All the hooks examined save one have a cross-hatching scratched on the back of the tail end of the shank.

The point of the bonito hook is shaped from shell cut from the lip edge of the pearl shell. One side shows the inner surface of the shell, the other side the black or gold outer surface which is smoothed down and sometimes polished. Eight points have been made of turtle shell, one of bone, the rest of pearl shell. In all the points the base is prolonged proximally to carry the technical head of the hook. In 26 points, two holes are drilled through the base of the point to carry the point-shank lashings; two points only have three holes. In none of the points has the proximal hole broken through the upper edge of the point base. Characteristic point shapes are shown in figure 42.

227 The snood consists of three-ply twisted *aea* cord about 1/16 inch thick and 20 or more
284 feet long. It is attached directly to the trolling rod without the mediation of a fishline

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proper (p. 168). It is lashed to the hook with fine two-ply twisted sennit. The hackle is made of short lengths (1 to 1½ inches) of sennit cord; the number of separate lengths ranges from 10, if of fine cord, to 28 lengths if of fine thread. Pukapukan fishermen have never used hackles of any material other than sennit.

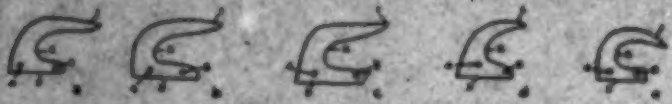


FIGURE 91.—Bonito hook points ([illegible]). *a*, common shape, rounded back, point almost parallel with base line; *b*, another common point, similar to *a*, but with longer point base; *c*, point with square back, acute angle at top right edge of base; *d*, short functional point and base, wide head; *e*, point with well-rounded head, downward projecting functional point. 1, functional point; 2, head; 3, base; 4, distal hole (*pu hi muri*); 5, proximal hole (*pu hi mua*).

No ceremonial is associated with the lashing together of the parts of the bonito hook. Considerable variation exists in lashing methods employed. Some fishermen employ separate lashings for the proximal and distal point holes in fastening point to shank, others employ a continuous lashing. The lashing of shank head to snood is also variable; some lashings consist of simple transverse turns, others of transverse and figure-of-eight turns.

A single hole lashing commences at the proximal hole with the middle of a long piece of thread. One end of the thread is left free to make the snood whipping, the other end is used to make transverse turns through the proximal hole of the point and round the shank. On the back of the shank, these turns make oblique crossings ([illegible]). On one hook only are the crossings parallel and not oblique. After six or eight transverse turns are made, they are bound on one side with the finishing end of the thread and fastened with overhand knots. On the other side, the free commencement end also binds the turns and is knotted, but the free end is passed backward and forward between the head hole and the proximal hole of the point for two or three turns and laid aside.

The snood is now laid on the front of the shank. One end of the snood is passed through the proximal hole of the point and doubled back along its length for the whole or part of the distance between point hole and head hole. The free end of the proximal hole lashing which has just made the turns between point hole and head hole is now seized round both the doubled snood and its previous turns through head hole with close turns. The point-head hole turns may be left out of the seizing for a few turns and then caught up again, or they may be continuously included in the seizing turns. In any case, toward the head, the point-head hole turns are dropped from the seizing which is continued to a point above the head hole. Most snood-head hole lashings consist of transverse turns between the hole and the snood followed by figure-of-eight turns over the snood, corresponding to the Manihiki method (29, p. 183, fig. 97). [171]

With a separate length of thread transverse turns are made through the distal hole and round the tail of the shank, fixing the hackle in this lashing with oblique turns according to the Manihiki method (29, p. 179, fig. 91), with the exception, however, that the lashing thread, after making [illegible] oblique transverse turns, makes half hitch side bindings round the near side lashing of the distal hole. The free end of the thread is passed through the distal hole to the far side, again makes half hitch side bindings round the far side lashing. The free end is then brought back round the distal end of the point, passed under the near side lashing, up, back over it to make a distal point

227 loop, and is finally fastened with overhand knots to this distal point loop. This loop is stretched and knotted on itself with an overhand knot. The loop is cut below the knot and each end knotted again to prevent unravelling. This method of making the 284 secondary buckle was the one illustrated to me, but it is possible that the Samoan method (27, p. 500) is also employed.

[171] If the base of the point is narrow and the point, after lashing, appears to be loose, filler sticks, ranging from 1 to 2½ inches long, are inserted between the point base and the point-shank lashings to fill this space and tighten up the point. They are used in 17 hooks, absent in 11 hooks.

Variations on type hook. The previous description summarizes the type bonito hook. Variations, especially in lashings, are common.

Continuous lashing of the two point holes to the shank is done with a very long lashing thread. The worker measures this into three sections. Commencing with the middle section, he lashes the proximal hole with transverse, oblique turns, binds this lashing with half hitches and passes one end of the thread up to the head hole. The head hole-point turns may be simple turns passing from the near side proximal point hole to the near side head hole, through the head hole and back to the far side point hole, or they may be oblique figure-of-eight turns, passing from the near side point hole to the far side head hole, through this hole and back to the far side point hole. In either case, after finally passing through the point hole, the seizing of the head hole-point turns continues as before. When the lashing of the snood to the head is completed, the free end of the third section of lashing thread is passed along the base of the point to the distal hole and completes the distal hole lashing, buckle fixation, and secondary buckle as before. Alternately, in one hook, the free end passes through the proximal hole, to the far side, makes a half hitch side binding, then passes back to the near side distal hole between the base of the point and the front of the shank.

The turns between head hole and point in one hook are made by passing the lashing thread from the near side proximal hole of the point up to the head hole, down to the point again, round the far side proximal hole lashing at the side of the point base, up to the head hole, through this, down the near side and round the near side proximal hole lashing. This is continued for the customary three turns and the free end continues with the usual seizing. In yet another hook, the turns between head hole and point have been added after the snood was lashed to the head and instead of passing through the head hole, pass round the head snood lashing between the snood and the head of the shank. The third downward turn on the near side passes obliquely underneath the snood to the far side proximal hole and through this hole to the near side to complete the lashing.

Several hooks have a simpler lashing of snood to the head of the shank. The thread makes transverse turns through the head hole and over the snood, binding these turns with circumferential turns between the head of the shank and the snood. This lashing corresponds to the simple Manihiki technique (25, p. 183, fig. 96).

[171] Most side bindings of point lashings are made with the regular lashing thread. In one hook, however, this is done with a separate short length of thread. The commencement end of this thread is knotted round the near side distal point hole lashing, passes to the near side proximal hole lashing, makes one turn round this, is then pushed through the proximal hole to the far side, binds the far side proximal hole lashing with one turn and passes down to the far side distal hole lashing round which it is knotted.

All but three hooks have the secondary buckle. One has nothing to take the place of this buckle. The second has a thread about 3 inches long knotted an inch from one end round the near side distal hole lashing, the two ends of the thread serving as a sort of secondary buckle. On the far side distal hole lashing, the finishing end of the thread lashing, after being knotted round the distal lashing, is cut off about 1½ inches from

227 284 the lashing and serves as a single secondary buckle for the distal side. The third hook has on the near side a length of thread which is knotted round the proximal hole lashing and the free end of which passes to the distal hole lashing on the same side, is knotted round this and cut off about 1½ inches from the distal lashing. On the far side, a thread was probably fastened in a similar way, but has been subsequently broken.

227 284 171 Two of the 28 hooks have points with three holes. Informants suggested that both of these hooks showed Manihiki influence. One of them was made by a Manihiki man long resident in Pukapuka and is one of the hooks with the exceptional secondary buckle. The snood is passed through the middle hole, turns between proximal hole and head hole are added as is customary with Pukapukan hooks, and the snood is seized as far as the head with turns that pick up and drop these head turns. The proximal hole lashing passes over this snood loop. The attachment of the snood to the middle hole is the attachment described by Buck (29, p. 177, fig. 89,c), and was done presumably for the same reason Buck gives; that is, because of the position of the holes—the middle hole being very close to the distal hole, the snood is passed through the middle instead of the proximal hole, to prevent the point lashings from being too close together. The addition to this hook of the Pukapukan method of seizing the snood presents an interestingly lashed hook which shows characteristic lashing patterns of two atoll cultures fused in the one object and illustrates also the importance of the personality of the fisherman in initiating new features. The hook has no filler sticks.

In the second hook with three point holes, the snood is passed through the proximal hole, the point lashings through the middle and distal holes. The hook is otherwise lashed according to Pukapukan technique and has filler sticks.

227 284 **Winding of snood.** After use, the bonito hook and snood are detached from the bonito rod and soaked in fresh water to wash out the salt from cord and lashings. The hooks are hung to dry in the shade. The snoods are then wound in a characteristic way.

Commencing about 5 inches from the head of the shank, the snood is wound transversely in longitudinal lengths round the fingers of one hand. When the winding has reached a point about 12 inches from the free end of the snood, the lengths are slipped from the fingers and passed over the point of the hook so that they lie along the front of the shank above the seized part of the snood. The free end of the snood is then passed transversely round shank and snood lengths about the middle point of the shank and the finishing end fastened to the last transverse turn with half hitches or overhand knots. The compact bundle of hook and snood is then placed away in safety until it is required again.

227 171 114 **Summary.** The Pukapukan bonito hook shows a number of constant features which make it a typical example of the western Polynesian bonito hook class as regards both type of point and the attachment of the snood to the point. Examination of a number of hooks reenforces conclusions drawn by Buck from a comparative study of bonito hooks (29, pp. 187-194). Pukapukan variations on the type pattern, while interesting in themselves, merely accentuate constant features of this pattern.

Macgregor (20, pp. 30-31)[1], from an examination of eight bonito hooks in Bernice P. Bishop Museum attributed to Pukapuka, states that Pukapukan hooks "have features other than the snood attachment which make the two types [of eastern and western Polynesian bonito hooks] more diverse than Buck's classification suggests." Macgregor proceeded on the basis of his Pukapukan hooks to make a subdivision in the western group between purely western (Samoa to Pukapuka) and marginal western (presum-

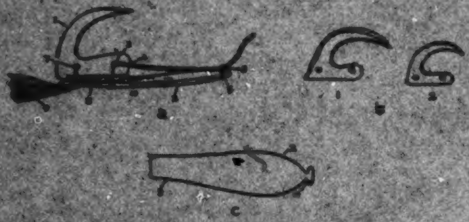
[1] [See 21: McGregor -- analysis.]

227 ably Pukapuka, also Manihiki, Rakahanga, Fagatau). It is unfortunate, however, that of the eight hooks on which this newer division is based, four only are Pukapukan, the
171 remaining four hooks being typical Manihiki hooks. Informants were at great pains to make the point clear that Manihiki hooks attributed to Pukapuka were not authentically
114 Pukapukan even if they were procured from a Manihikian man on Pukapuka. In any case they felt that the collector had become confused in his localities and had mislabeled hooks actually procured from Manihiki. Examination of the series of 28 bonito hooks indicates clearly that all but two of these conform to one general type and that the remaining two definitely show Manihiki influence. Hence one may conclude that Macgregor's analysis was based on an unfortunate mislabeling of museum specimens which invalidates his whole argument and indicates that Buck's analysis may still be taken as final.

Two old Pukapukan bonito hooks are figured in the literature: one collected by Gill before 1877 and shown by Beasley (4, pl. XLIX A, 1), a hook with a pearl-shell shank and turtle-shell point, apparently conforming in all particulars to the type Pukapukan hook. A second hook figured by Edge-Partington (8, 1st ser., pl. 62, 4) is also a typical Pukapukan hook. These hooks help to establish the stability of the Pukapukan type.

Small Composite Hooks

227 Small composite trolling hooks (*pa*) are made with pearl-shell shanks and turtle-shell points (fig. 43,*a*). Hooks with shanks from 2 to 2½ inches long are used in trolling for *komuli* fish and are named generically *pa tahi komuli*. Smaller hooks, with shanks from 1 to 1¾ inches long, are used for *malau* fish and are termed *pa malau*.



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284 FIGURE 43.—Small trolling hook (*pa tahi komuli*) (C8133). *a*, composite hook: point (1) first lashed to shank (2) through proximal hole (3); snood (4) passed through proximal hole and seized with free end of proximal hole lashings; seizing continues until head is reached when thread makes transverse turns (5) around shank and binds them with circumferential turns (6), then seizes snood for about 1 inch beyond head; distal hole (7) of point lashed, commencing with thread passing from proximal hole underneath shank (8) across to distal hole on far side, thence back through distal hole and around shank to fix hackle (9) of *wao* fiber with oblique turns; no secondary hackle on this hook; filler sticks (10) inserted between lashings and sides of point base. *b*, small trolling hook points of turtle shell: 1, large point, beveled edges, rounded bend, and inverted functional point; 2, small point, rounded bend, short inverted functional point. *c*, pearl-shell shank: 1, notched projecting head; 2, widest part; 3, tail.

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Shanks of these hooks are of uniform thickness. They do not have the raised head of the bonito shank. Instead, the head consists of a notched projection (*[illegible]*). The shank widens below the head, then narrows and flares slightly to form the tail (*yiku*; fig. 43,*c*). The greatest width of the shank in larger hooks is about ⅜ inch, in smaller hooks about ⅛ inch; the width of the tail in larger hooks is about ¼ inch, in smaller hooks about ⅛ inch; average thickness of all hooks is about ⅛ inch.

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Shanks are made of both black-lipped and gold-lipped shell. The inner nacreous surface of the shell forms the front of the shank; the outer rough surface, the back of the shank. This rough surface is smoothed and polished, but the black surface is not ground away as in bonito hooks.

All points are of turtle shell. Characteristic shapes are shown in figure 43,*b*. The points range from ½ to ¾ inch in base length and from 1/16 to ⅛ inch in thickness. Two holes only are bored through the base; none of these was broken in the eleven hooks examined.

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The lashing together of the small composite hook corresponds exactly to the method described for the larger bonito hook.

A typical lashing is shown in figure 43,*a*. Lashing of point to tail of the shank may be with a single thread for each hole or with a continuous thread. After the proximal hole is lashed with transverse turns which cross obliquely on the back of the shank, the free end of the thread seizes the snood as far as the head of the shank. In these small composite hooks, no thread is run between proximal hole and the head of the shank. The distal lashing is often bound at the side with the finishing thread to make the characteristic *secondary* hackle of the bonito hook.

Several slight variations may be noted on this fundamental lashing pattern:

Filler sticks are not used in six out of eleven hooks; in three, the filler sticks are coconut midrib and in two the fillers are short fishbones wedged between the distal lashing and the side of the point base. In one hook, the point is lashed with a continuous thread which commences with the proximal hole. A half hitch side binding is made round the far side proximal hole lashing and the free end of the thread is passed underneath and diagonally across the back of the shank, then up to the near side distal hole to commence the lashing of this hole. In a second hook, the proximal hole lashing is completed and the lashing bound on the near side; the free end of the thread is then passed on the near side to the distal hole to make the distal hole lashing. The snood is passed through the proximal hole, but it is seized with a special lashing thread that is knotted round the far side proximal hole lashing, passes from this through the snood loop, and commences the seizing of the snood on the near side.

Secondary hackles are found on four out of eleven hooks. In two hooks the hackle is made according to the bonito hook pattern. In the remaining three hooks, it is made in slightly different fashion. In the first hook, the near side distal hole lashing is bound with the free finishing end of the lashing thread and the thread is cut about 1 inch from the distal hole. At the far side of the distal hole a thread about 2 inches long is passed through, up, back over the distal hole lashing. In one hook, the two free ends of this thread are twisted together and are knotted with the free end of the projecting finishing thread from the near side hole. In the second hook, the two free ends are tied in a double overhand knot effectively binding the far side distal lashing, and these two ends, together with the free finishing end from the near side, are knotted together to form the secondary hackle. In the third hook, both near side proximal and distal hole lashings are bound with a separate thread that is knotted round proximal side lashing, passes to distal lashing, is knotted round this, and passes again beyond the distal end of the point base where it is knotted with the double ends of a second thread that has been knotted round the far side distal hole lashing.

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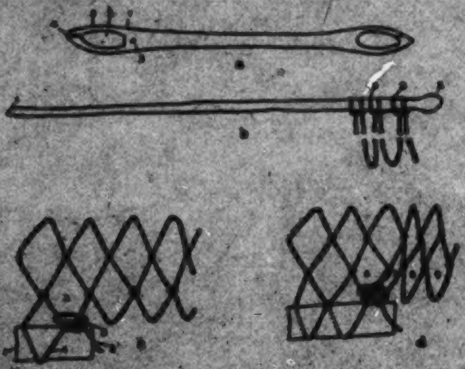
284 In one hook only does the point lashing commence with the distal hole. Transverse oblique turns fix the buckle, and the lashing is bound with the finishing end of the lashing thread, which passes round the lashing and is knotted on itself. The commencement end of the separate lashing thread for the proximal hole is knotted to the near side distal lashing and serves as a binder for this lashing. The free end passes to the proximal hole on the near side and makes four transverse oblique turns through this hole and round the shank. When these turns are completed, the free end passes up to seize the snood, lashes the snood to the head of the shank, and again seizes the snood for about 1 inch beyond the head lashing.



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286 FIGURE 41.—Netting needles and netting technique. *a*, netting needle ([illegible]) of unknown wood (C8048): needle 14¼ inches long; 1, expanded end ¾ inch wide; 2, central longitudinal slot ([illegible]); 3, sides of slots ([illegible]); 4, slit ([illegible]) through which netting cord passes; 5, hole (*pu*) through which commencement end of netting cord knots; cord wound longitudinally between two slots. *b*, netting needle ([illegible]) (C8129) of coconut midrib: needle 6¾ inches long, about ¼ inch diameter; 1, blunt end; 2, terminal knob; proximal end (3) slightly notched ([illegible]) and three lengths of sennit cord attached by clove hitches; when loaded, needle carries 10 or more lengths of netting cord attached to proximal end. *c*, netting technique: to make mesh by ordinary technique, mesh gauge (1) is placed in position so that upper edge touches completed mesh (2); netting cord (3) brought down behind gauge and up around lower edge to form lower loop (4); needle passes through loop of mesh (2), crossing drawn taut on upper edge of gauge where it is held with left thumb while netting knot (5) is made. *d*, to narrow net, same technique followed, but two completed meshes (6,7) brought together by superimposing 7 over 6 with netting knot made as before; in practice, meshes 6, 7, 8, 9 would be brought together by superimposing 7 over 6, 8 over 7, and 9 over 8, with netting knot made around all four gathered meshes (only two superimposed meshes are shown).

NETTING

Nets are made from two-ply twisted [illegible] fiber, two-ply twisted sennit ([illegible]), and from fibers prepared from the aerial roots of the [illegible] pandanus tree. The methods of preparing these netting cords are described on page 143.^

^[See category 283 or 116-- analyst.]

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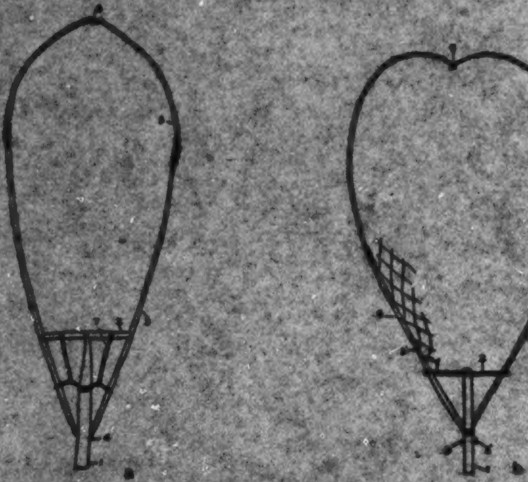


FIGURE 45.—Flying-fish and bird nets. *a*, framework of flying-fish net (*tae malolo*) (C8067): 1, handle (*kautae*) of *puapua* wood, 7 feet 2 inches long, greatest diameter 1¾ inches, diameter at crossbar ⅝ inch; head of handle slotted (*ulupo*) to hold crossbar (*teka*) of *wakavavae* wood (2) which is 10½ inches long, ¾ inch in diameter; crossbar slotted at each end to receive rods (*mangavanga*) of pandanus wood (3) 3 feet long and ¼ inch in diameter at ends where they fit against handle (4); other ends of rods are ⅕ inch in diameter and are joined to lighter rods (*matai*) (5) of *lakau yili* by scarf joins; each *matai* is 20 inches long and ⅝ inch in diameter; the other two ends of two *matai* are notched, brought closely together (6) and joined by continuous transverse turns of cord; lashing of crossbar to handle strengthened by suspensory lashings (7). The lashing of stout rods (*mangavanga*) to handle, shown in figure 46, *a*, *b*, *c*; lashing of head of handle to crossbar and of ends of crossbar to stout rods is in common alternating curves pattern; lashing of stout rods to lighter rods is by transverse turns around scarf join, commencement ends and finishing ends being buried. The suspensory lashing consists of transverse turns around handle and across to stout rods on either side, then transverse turns around cross lashing and crossbar; cross turns and suspensory turns are seized to make lashing taut. Net is 18 inches deep, with greatest width at mouth 19 inches. *b*, bird net (*uruta*) (C8443): 1, handle of *puapua* wood 10 feet long, 1¾ inches at widest diameter, and 1 inch in diameter at head; 2, crossbar of *ngangie* wood is 11⅝ inches long, ½ inch in diameter; 3, 3', stout rods of pandanus wood, 2 feet 6 inches long, ⅕ inch in diameter; 4, lighter rods of *lakau yili* wood, 3 feet long, ⅕ inch in diameter at join with stout rods, ¾ inch in diameter at distal point (5) of frame; in attaching frame to handle, crossbar (2) is first lashed to upper side of handle; both stout rods (3, 3') laid over upper sides of crossbar and under handle, two ends of rods projecting slightly beyond handle, 3' to right, 3 to left; lashing of rods to handle, of rods to crossbar ends, and of crossbar to head of handle are all of alternate curves pattern; crossbar first lashed to head of handle; free end of cord carried to left end of crossbar and lashes rod to crossbar; free end carried back across crossbar to opposite end of crossbar and

223 284 lashes rod to crossbar end; free end of cord carried down to handle and lashes ends of rods of handle; finally, free end of cord carried down handle, making transverse turns around handle at intervals of 15 inches; 4 feet from proximal end of handle, cord makes 8 transverse turns around handle and fastens with overhand knot. This lashing enables the bird catcher more quickly to draw in his net by providing a firm hold for his hands. Light rods (4) attached to stout rods (3, 3') by scarf joins lashed with transverse turns on one side and oblique transverse turns on the other; two ends of light rods overlap (5) and are fastened together; natural springiness of thin rods makes net framework heart-shaped. Net attached to handle before ends of light rods are lashed together; each rod passes through marginal meshes (6) of net, net being attached directly and without use of marginal cord; proximal end meshes of net are gathered on a double cord which loops loosely around head of handle below crossbar and has two ends knotted together. Net is 29 inches deep; greatest width at mouth 31 inches.

171 227 286 Netting needles (*tui* or *wuwa*) and mesh gauges (*yika*) are used. Of two types of needle, the *wuwa* type (fig. 44,*a*) is similar to those used in other parts of Polynesia. One end of the netting cord is passed through the hole and knotted. The rest of the cord is wound longitudinally between the two slots; the knotted end prevents the cord from slipping off the needle when only a few longitudinal turns remain on it. The second type of netting needle (*tui* or *yuki*, fig. 44,*b*) is loaded by making a clove hitch on it at the point of the notch and just forward of the terminal knob (which prevents the clove hitch from slipping off the needle) with the free end of the netting cord. A length of about 30 inches is measured off and another clove hitch made round the needle. This process is repeated until a sufficient length of cord is attached to the needle, hanging from the terminal knob end in double lengths of about 15 inches. In using the needle, a double length of cord is slipped from the blunt point of the needle. When this length has been used up, a second length is slipped from the needle and the process is repeated as the netting advances. In slipping the cord from the needle, the clove hitch in the cord unties itself. Needles are made in various sizes to suit different sized meshes.

The *yika* gauge is a flat rectangular piece of wood scraped smoothly or a piece of turtle shell. A mesh gauge of turtle shell (C8131), used to make the flying-fish net in the museum collection is 3½ inches long, ⅜ inch wide and 1/16 inch thick. The edges are polished smooth. Mesh gauges are of different sizes according to the size of mesh required.

TECHNIQUE

171 227 286 To make a net is *tui te kupenga*; a mesh is *mata kupenga*. The Pukapukan technique of netting (fig. 44, *c*) corresponds to the Samoan method described by Buck (27, pp. 470-472) with one variation.

The netting needle is loaded and the required mesh gauge selected. An assistant holds a light supporting rod of wood around which the first meshes are made, the assistant judging their size by eye. This variation on Samoan starting technique is the same as the Manihikian technique save that a supporting rod replaces the supporting cord used in Manihiki. (See 29, p. 161, fig. 73.) When the Pukapukan netter has made the first row of meshes he transfers these meshes from the rod to a supporting cord. The ends of the cord are knotted and the cord looped round a stick placed in the ground or else round the toe of the netter. As each row is completed, the net is turned and successive rows are added by the same technique.

One Pukapukan method of narrowing bag nets is by the addition of extra meshes, the common Polynesian technique. A second method is by making a netting knot round two or more meshes. Thus in the bird net and in the flying-fish net described below, the bottom of the net is narrowed by gathering together under the thumb four successive meshes and making the netting knot round these four meshes together (fig. 44,*d*). The

171 method corresponds to the Samoan technique of "dropping meshes in the various rows"
(27, p. 472): gathering together two or more meshes in one row to function as a single
227 mesh means that in the next row there will be fewer meshes with which to work, hence
the technique is equivalent to dropping meshes from subsequent working rows.
282

TYPES OF NETS

The seine net (*kupenga*) and the large hand fishnet (*tae yaeke*) have been
227 described (pp. 57-58). The flying-fish dip net (*tae malolo*) consists of a long
handle, a crossbar and framework (figs. 45,*a*, 46). Its use is described on
286 page 58.
284

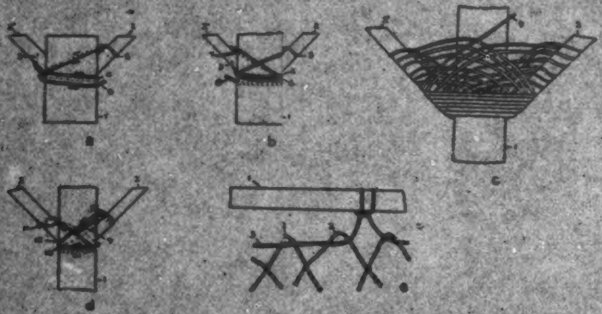


FIGURE 46.—Lashing of flying-fish net framework. *a*, commencement of lashing of stout rods (2, 2′) to handle (1): commencement end of sennit cord (3) laid on far side of left rod; cord brought around in front of handle and transversely (4) around to back, across to far side, then up diagonally across near side, passing between rod (2) and handle, across front of rod (5), then diagonally down far side of handle, passing around and across front of handle (6). *b*, continuation of lashing: free end (6) passes to back of handle, diagonally up and across to rod (2′), around front of rod (7), behind it and diagonally down and across front of handle, and around back of handle (8); this establishes lashing pattern, which is continued for about 12 or more complete diagonal turns passing to each rod. *c*, completed lashing pattern is here shown with six turns only; *d*, on top of pattern are superimposed four superior diagonal lashing turns; method of making turns shown here (inferior lashings omitted); free end of cord (9) passes diagonally down far side of handle around to front (10), across handle, diagonally up far side (11), around rod (2′), diagonally down near side, around far side of handle again, up diagonally across near side (12) to rod (2), around this rod and diagonally down across far side of handle; lashing pattern is continued until there are two diagonal lashings up and down handle; finishing end of cord carried diagonally across near side of handle to rod (2), makes two transverse turns around rod and buries finishing end underneath these two turns; finished lashing is of neat and pleasing design. *e*, attachment of flying-fish net to frame: 1, rod of framework; 2, marginal net meshes; 3, marginal cord passes through meshes, then up to frame, making a clove hitch around rod, passing down to pick up more marginal meshes; process continued until all marginal meshes are picked up on cord, rod clove hitches 6 to 8 inches apart, free ends of cord wound round handle just below cross-lashing holding suspensory lashing of crossbar to handle; second cord passes through marginal meshes at proximal end of net and is fastened to stout rods above lashing of crossbar.

227 286 The flying-fish practice net (*tae penu*) used by young men to catch pandanus keys thrown at them in practice sport is of similar shape to the flying-fish net, but smaller.

[284] It consists of a handle of *weiwa* wood, 4 feet long and 1⅕ inches in diameter, a crossbar 8 inches long, ¾ inch in diameter, and two stout rods of pandanus wood, 3 feet long, which are fastened to handle and crossbar, the ends bent close together and tied without the intermediary of lighter rods (*matai*) used in the flying-fish net frame. The lashings of framework and attachment of net to frame are similar to those of the flying-fish net. The practice net is made of the two-ply twisted fiber from the aerial roots of *yulu* pandanus. The net is 13 inches wide at the mouth, 18 inches deep.

223 The large bird net (*wuata*, fig.45,*b*) differs in shape from the flying-fish net.

The net framework is attached to the handle in such a way that the distal end of the framework rises at an obtuse angle from the plane of the handle. The distal point of the frame is 10 inches higher than the plane of the handle. The framework when viewed sideways presents the shape of an enlarged spatula. When the bird catcher brings down the net upon a flying or roosting bird, the net is reversed so that the distal end of the frame is lower than the plane of the handle. A bird flying from the net is more likely to be caught by the downward projecting spatula-shaped net than it would if the net frame were in the same plane as the handle. The frame and handle are made of light wood so that the net may be easily used in the tree tops. The net itself is made of fine two-ply twisted sennit.

TRAPS AND SNARES

136 223 Because the fauna of a coral atoll is extremely simple, there are in Pukapuka only two types of bird snare and a form of the widely distributed western Polynesian rat trap.

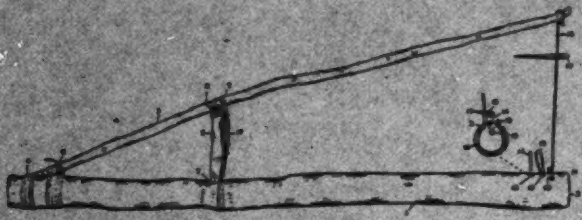
224 [171] The construction and operation of the rat trap (*vaka kiole*) are shown in figure 47. The trap is baited with mature coconut flesh (*ipiipi*) and set in a runway made by rats. The rat is removed by the owner of the trap, who resets the bait stick and spring mechanism.

The coconut-shell bird snare (*maenga kai*) is shown in figure 48,*a*. Another bird snare (*maenga tuli*), shown in figure 48,*b*, is set on the beach, weighted down with stones, and the birds driven through it.

225 231 Though not strictly traps or snares, wooden structures (*pa wonu*) in which turtles are kept may be described in this context.

Stakes of *puapua* or *pukonu* wood, each about 5 feet long and 1 inch in diameter, are driven into the sea bottom a few yards from low water level of the beach. The stakes are arranged about 1 inch apart to form a rectangular enclosure 3 feet square, and 4 feet high. The stakes are bound together at top and bottom with horizontal poles and a continuous lashing which makes transverse turns round vertical and horizontal members. Baby turtles, caught as they emerge from their shells, are placed in these enclosures. They are fed regularly on squid and octopus until they are mature enough to be killed for a special food division. The size of enclosures observed varied according to the number of turtles placed within. An enclosure of the above size housed two turtles with shells about 12 inches long. Bigger structures contained five or more small

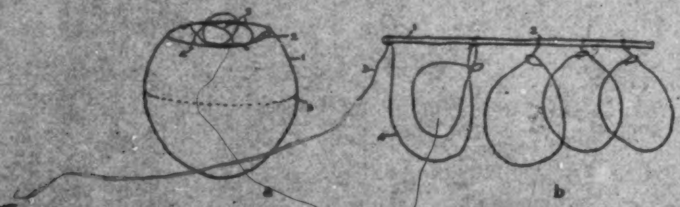
225 231 turtles. There are about three of these enclosures in each village. When the people of Ngake go to Motu Ko for the copra-making season, they take with them their small turtles and put them in temporary enclosures erected on the lagoon frontage of the copra settlements.



224 284 FIGURE 47.—Rat trap (*vaka kiole*) (C8171): trap (1) 2 feet 7½ inches long and 2½ inches in diameter at larger end, made of a section of pandanus wood, hollowed out at one end (2) into a hole 2 inches in diameter and 6 inches deep; a springy piece of *ngangie* wood (3) 2 feet 8 inches long and ½ inch in diameter tied to pandanus wood at one end (4) and supported by upright (5) 4½ inches high and ¼ inch in diameter; lashing of spring to trap (4) consists of 7 turns of two-ply twisted sennit around end of spring and trap; free end of sennit carried 1 inch up spring to make eight figure-of-eight turns (6) around spring and trap; finishing end buried, but not cut off flush with previous turns; upright (5) rests at one end in a natural depression (7) on upper surface of trap; upper end lashed to spring with common alternate curves pattern lashing (8); suspensory brace (9) consists of 4 turns of two-ply twisted sennit around spring and trap, transverse turns being seized with 23 transverse turns (10) finished off with half hitches; on either side of middle line at open end of trap, holes large enough to allow run of two-ply twisted sennit are bored through roof of trap just inside entrance (11); a little farther in, two holes (12, 13) are bored in median line; straight stick (14) pushed down through innermost hole (12) to support bait (19); loop of sennit (15) knotted inside trap so that it projects above trap to height of bait stick; length of sennit (16) knotted around free end of spring; after testing tension, a light stick (17) is fastened by clove hitches to sennit so that it passes through noose (15) and rests its pointed end on top of bait stick (14); end of sennit (16) pushed through hole (11), passed around inner circumference of trap hole, and pushed out through another hole where it knots (18); cross section shows sennit (16) passing around inner circumference of trap (2), knotted at 18, bait stick (14) baited (19), and light stick (17) passing through loop (15) and resting on top of bait stick (14); trap set by pulling down spring and passing stick (17), attached to sennit, through loop (15) and resting its point on upper end of bait stick (14) (see cross section). In this position, as long as upper end of bait stick remains immovable spring stick cannot fly back; sennit loop within trap spreads out so that a rat entering trap must step over loop to nibble at bait which is fastened to pointed end of bait stick before trap is set. Rat nibbling bait moves bait stick which releases light stick, spring flies up and catches rat against roof of tube by tightened loop. In use, trap is propped in position by stones and sand packed around and alongside it.

SOUL TRAP

774 Though I believe the so-called "soul trap" was not used in Pukapukan
775 culture but was only an ideological concept of one of the many traps with
which the Underworld was full (p. 329), nevertheless particulars of the soul
417 trap sold by Gill in 1876 to Sir Wollaston Franks for the British Museum
may be given here. The following description as well as the print of the cen-
284 tral portion of the trap (pl. 6) has been forwarded to me by Mr. Adrian
114 Digby of the British Museum.



[223 284] FIGURE 48.—Bird snares. *a*, snare for *kui* birds (*maenga kui*) (C8135): drinking nut (1) 4 inches high, with top removed to form opening (2) 3 inches in diameter; flesh removed from inside upper portion of nut down to dotted line (3); five holes bored through shell just below rim (4) and a length of prepared coconut fiber passes through each hole to be fastened by knot; free end of each fiber forms a slip noose (5); snare set by making five nooses which pass through each other and so block opening. *b*, snare (*maenga tuli*) (C8060) for *tuli* birds, section only of snare shown: stick (1) section of coconut midrib, 4 feet 4 inches long, ⅜ inch in diameter; lengths of prepared coconut fiber (2) knotted at regular intervals along stick; fibers each knotted into slip nooses of which there are 23 on stick, each about 2½ inches in diameter; long fiber (3) with loop at end knotted to each end of stick and loop dropped over peg to anchor stick in place; a fixed loop (4) is knotted to each end of stick and placed over peg or held down with a stone to give more secure placement to snare; wings (*pa*) of coconut leaves and stones fan out at an angle of about 145 degrees from each end of stick to ensure that birds do not escape around ends of snare.

The trap (no. 9925, Christy Coll., British Mus.) has a total length of 19 feet 4½ inches and consists of eight loops (of which only six are shown in pl. 6) made by binding three-ply braid round a core. This core is made of double lengths of three-ply braided sennit, loose coconut fibers (probably those adhering to the roughly made sennit), and some two-ply twisted *woo* fiber. The loops are lashed in pairs to a long three-ply sennit braid which tapers at both ends. The shorter end (F) terminates in a two-ply twist about 2 inches long. The material used in lashing loops to the central cord is a combination of coarse three-ply braid, with either a fine three-ply braid or a two-ply twist. No details of the lashing are available. Mr. Digby suggests that part of the material used in lashing the pair of loops (D) is a small quantity of bark cloth. But bark cloth was never made in Pukapuka, and it is probable that the material has been confused either with coconut leaf stipule (*kaka*) which is not generally used for lashings because of the weakness of the fibers, or else with thick strips of *woo* fiber.

TOYS AND SPORTS EQUIPMENT

524 Pukapukan children are clever at making original toys from coconut leaflets. Coconut leaflet toys, made by children according to the technique 824 described for Aitutaki (26, pp. 318-322), include the leaflet Jew's harp (*vivo*), the windmill (*poteka launiu*), the leaflet bull roarer (*wakatangilangi*), 171 and the leaflet spinner (*wakaki matangi* or *wuti lele launiu*). Whereas the Aitutakian spinner is made with a collar and suspended with a banana leaf fiber (26, p. 321), the Pukapukan spinner is closed by skewering the two leaflet ends together with a piece of coconut leaflet and is suspended by a strand of human hair knotted to a thin length of coconut midrib.

A trick figure made from a strip of dried coconut leaflet is termed *te tionga a Maui* (fig. 49,*b*), because the gods gave this figure to Maui to see if he could disengage the two leaflet sections when they were testing out the culture hero. Children and adults spend much time trying to solve the puzzle, without success however, for the solution, if ever there was one, is now lost.

A coconut-leaflet trumpet (*pu launiu*) is made by Pukapukan children. Leaflet midribs are stripped from eight or more coconut leaflets:

> The leaflets are rolled spirally into the shape of a cone, successive leaflets being added by overlapping the ends. When a trumpet of suitable size has been made, the free end of the last leaflet is skewered to turns underneath with a small fishbone or splinter of wood. A reed made by doubling a piece of leaflet along the mesial transverse line is inserted into the mouthpiece of the trumpet.

A favorite toy made during our stay was leaflet spectacles which children perched on their noses, pretending they improved their sight.

524 Two types of ball are in use: one is a round ball made of *wakanava* wood used in cricket; the other is a somewhat square object made by covering a stone with plaited check coconut leaf. Both balls are termed *bolo*, a 177 name presumably derived from the English word "ball". Either the old name for the ball has been forgotten, or the ball is an introduced toy.

Coconut-cup shoes (*tui ngaipu*) are made by threading a length of pandanus or sennit through the eye of a half coconut shell. The foot is placed on the shell and the cord passes to the hand between the big and second toes. 526 Children wear these shoes today for sport, but informants said that formerly adults occasionally held coconut-cup foot races during the time of merry-527 making that introduced the six months of pleasure.

177 Wooden stilts (*lole*), said to be introduced, are sometimes used by children.

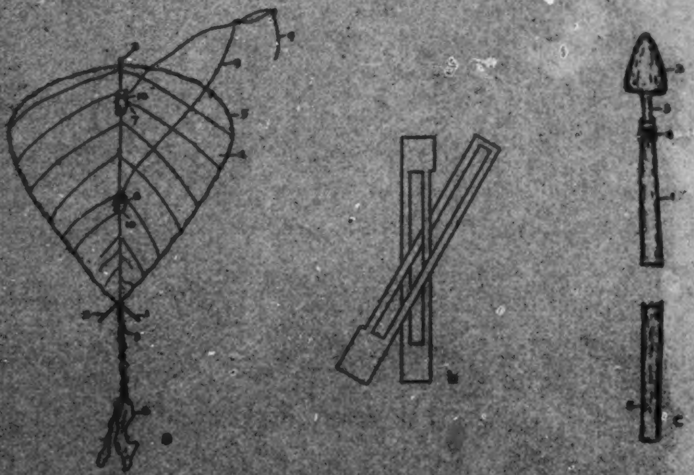
524 The toy bow (*wena*) and arrow (*ti*) made from coconut-leaflet midribs is an introduced toy. Marbles were also unknown formerly, but today children use as marbles (*pei*) seeds from the *wetau* tree.

524 Swings (*talakelake*) are made by suspending a crossbar of *ngangie* wood by a sennit rope from a branch of convenient height. The swing is supposed 177 to have been introduced originally by the voyager Wue on his return to Pukapuka. No skipping rope was known.

Noise makers (*pulaka mana*) are made by cutting shallow longitudinal slits on a length of *pulaka* stalk. The flanges so made are raised. With the stalk held in the left hand, the flanges are knocked down in succession with a sweeping blow of the dorsal side of the right hand. A loud noise results as each flange is leveled.

Pop guns (*mana*) are made by inserting a piston into the hollow core of a dry *ngayu* branch. The seed of the *taeyinu* tree or a piece of mature coconut flesh (*ipiipi*) is inserted into the branch and the piston sharply pushed down on top of the seed to produce a loud report. Another pop gun is made with the hollow wing bone of the *takupu* bird, a piston of *puapua* wood, and *taeyinu* seed or *ipiipi* to produce the report.

526 A surf board (*papa*) is any flat piece of wood of about an arm's length on which arms and chest are rested when surfing. No elaborate long boards are used, nor does the surfer ride in any position but the prone one.



524 FIGURE 49.—Toys and composite dart. *a*, kite (*kokilo*) of *puapua* leaf (C8099): coconut leaflet midrib (1, 2) bent into required shape and fastened to another midrib 284 (3) by strips of coconut fiber (*kaleva*); edges of large *puapua* leaf (4) bent over this frame and fastened to it by continuous thread of fiber (5) which passes through leaf and around frame midrib; center midrib (3) extends below apex of kite and to this a tail (6) of two dried coconut leaves fastened by transverse turns of fiber; at two points

524 (7, 8), face of kite is punctured in longitudinal mesial line and a trailer cord (9) is knotted to midrib over small wads of leaves (10) which prevent chafing of kite face.
284 Size of kite: greatest width, 10 inches; height, 10 inches; length of tail, 3 feet. A second kite (C8058) is 9 inches wide, 10½ inches high. *b*, trick figure of coconut leaflet (*tiongo a Maui*): dried coconut leaflet 8 inches long, 1 inch wide slit three times longitudinally; section at each end of leaflet slit transversely so that leaflet consists of two sections, front and back, each bearing two thin strips; trick is to disengage two leaflet sections without breaking them. *c*, composite dart (*velo*) of *ngayu* wood (C8100): 1, haft 6 feet 2 inches long, average diameter ⅓ inch; 2, head (*ulutoa*) of *ngangie* wood 1⅝ inches long, ¾ inch in diameter at base; 3, stem 1⅓ inches long, ¼ inch in diameter, pointed and driven into pithy core of haft and lashed with 10 transverse turns (4) of fine two-ply twisted *wao* cord; commencement and finishing ends buried; lashing holds *ulutoa* head fast and prevents haft head from splitting. Most darts also lashed with transverse turns at proximal (5) end (*yiku*) of haft to prevent splitting of haft when thrown dart strikes ground. Above described dart is small; a more typical dart, examined in the field, was 7 feet 6 inches long, ½ inch in cross section, with an *ulutoa* head 4¼ inches long; butt end of dart was bound with *wao* cord.

524 Kites (*kolilo*) are made of a *puapua* leaf stretched over a coconut leaflet midrib frame (fig. 49,*a*). The tail (*kave*) is made of two dry coconut leaflets, the flying cord of strips of coconut midrib (*kalava*). A circular faced kite is termed *kolilo ipu*: a semi-diamond shaped kite is termed *kolilo kalovaleva*.

The only tops in use are teetotum tops (*potehateka*). These are *teupulepule* shells (*Conus ebraeus*) which are spun (*takavilivili*) with a twirl of the fingers. The spinning point is termed *malimali*, the spun end, *ulu*. No game is played with these tops; they are used as toys only.

526 Throwing discs (*potehateka watu*) are made by rubbing down a piece of *punga* coral with another stone until the coral is roughly disc-shaped. Apparently no particular care is taken to produce a well-finished article. A rough disc seen in the field was 3¼ inches in diameter and between ¾ and 1 inch thick. To throw the disc is *wakapotehateka* or *wakatateka*.

Discs for the game of *tupe* are made of coconut shell. In a set of 12 (C8194), five discs are cut from the eye end of the shell, seven from the opposite end of the shell. The discs range in weight from 1 to 1⅓ ounces and in diameter from 3 to 3¼ inches. No particular pains have been taken over the discs. The surface of the shell is smooth, but not polished.

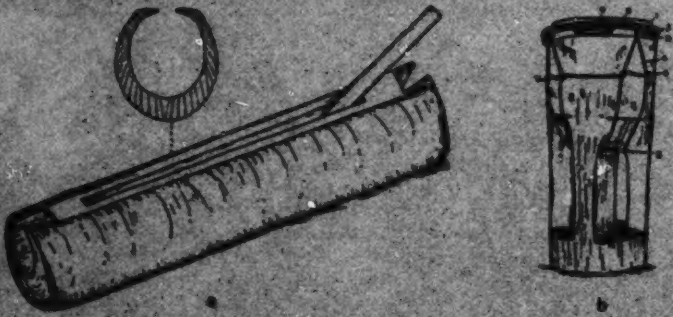
The dart (*tika*) is made of *ngayu* wood:

526 Lengths of wood are cut from the bush and heated over a fire so that the green bark may be easily peeled from the wood. The dart is rubbed smooth between two pieces of coconut shell. The shorter dart (*putika*, C8061) is about 2 feet long and ⅓
322 inch in diameter. The longer dart (*tika*, C8062) is about 8 inches longer and of the same diameter. The darts are bluntly pointed at the proximal end; the distal end (the head) of one of the darts has been worn away from striking the ground. It is a matter of choice whether the player uses the short or the long dart.

The composite dart (*velo*, C8100) is made of *ngayu* wood with a head (*ulu toa*) of *ngangie* wood (fig. 49,*c*):

526 The wood is heated over a fire and the green bark peeled from it. The shaft is rubbed (*[illegible]*) smooth between two pieces of coconut shell and given a deep brown
322 color by hanging in the rafters of a cook house above the smoke of cooking fires. Alternately the shaft may be decorated with spiral lines by stripping the bark from the shaft in a spiral about 1 inch wide running from butt to head and then hung over a cooking fire for some days, after which the remainder of the bark is peeled off leaving the shaft with a spiral of dark brown running down the length. A dart decorated in this way is termed *velo tutu*.

411 Darts are used as sporting equipment today. Some informants suggested that *velo* with sharply pointed heads might also have been used as weapons.



534 FIGURE 30.—Gong and drum. *a*, wooden slit gong (C8111): diameter from slot to bottom 3¼ inches; cross section diameter 3½ by 4 inches; length of gong 17¾ inches;
284 slot opening, 12 inches long, 1 inch wide; beating stick (C8212) 10 inches long, ¾ inch diameter. A second gong (C8054) is smaller: diameter from slot to bottom 2 inches; cross diameters 3 inches by 2½ inches; length 16½ inches; slot opening 13 inches long; ¾ inch wide; beating stick (C8055) 12⅝ inches long, ¾ inch diameter. The wood from which gongs are made is *[illegible]*, that of beaters *ngangie*. Bottom surfaces of both gongs slightly convex. *b*, shark-skin covered drum (*payu*) (C8601): drum 2 feet 9½ inches high, 10 inches top diameter, 9 inches bottom diameter, cut from solid block of coconut wood; inside top of drum hollowed out and an edge ½ inch wide and 2 inches deep cut around outside of top: 1, shark-skin cover (*mata kili mango*) laid on top of drum and circumference of skin folded over circular wooden binder (*tua kaumala*) of pandanus wood (2); skin shown cut away (8) to indicate wooden binder (9) beneath; 3, second wooden binder seized with three-ply sennit, placed on top of skin folded over first binder and pulled tight by three-ply sennit cord which starts as free end of seizing to second binder, passes down (4) around (5) one of legs (*vae*) and up again to second binder, under and over it and down again to second leg; lashing continues until second binder is held by cord passing around each leg; free end of lashing cord passes up from last leg and then around circumference of drum (6), making transverse turn around each oblique lashing; circumferential lashing finished off with overhand knots around last oblique lashing (7). The shark skin for this drum was cut too small and the turned-up circumference has been caught around first binder (2) with sewing of cotton thread. An alternate method of lashing skin to drum is to pass sennit lashing directly through holes in circumference of skin, passing lashing around legs as before; this method obviates the rather clumsy use of two circular wooden binders.

MUSICAL INSTRUMENTS

534 202 Pukapukan musical instruments consist of the wooden slit gong, the true drum, and the shell trumpet. The shell trumpet (*pu*) was made by cutting off the apical whorls of the shell *Cornis rufo*. It does not seem to have had much status in the culture and informants were vague about its use. Probably it was blown occasionally to call together the people of the island when meetings were held or announcements made.

[171] Wooden slit gongs (fig.50,*a*) were of the usual Polynesian pattern. Informants were confused as to the proper names for the gong as distinguished from the drum. Majority opinion called the smaller wooden gong *nawa*, the larger gong *kolilo*, the single-ended drum *payu*; some informants however did not agree with this terminology and preferred to call a wooden gong of any size *pate*, reserving the name *payu* for the single-ended drum and giving the name *nawa* to a double-ended drum; the word *kolilo* they believed to be a foreign (*pu wenua*) word for the gong (compare Manihikian *koriro*, wooden gong).

533 Wooden slit gongs are made in two or more sizes, a small gong for a high-pitched sound, a large gong for a lower pitch. All gongs are beaten with a wooden beater (*hauta*). Formerly, when a large chanting and dancing festival was held, the fore section of a canoe hull ([illegible]) was beaten to give a deep basic rhythm against which the higher pitched gongs provided counter rhythm; occasionally a whole canoe was carried to the dance ground and the gunwales beaten with sticks to make the dance rhythm.

533 534 The single-ended drum (fig.50,*b*) was used as one instrument in an "orchestra" of drum and gongs to keep the rhythm for dancing and chanting on all occasions when chants were recited—at sports celebrations, wrestling triumphs, and death wakes. The usual drum was much bigger than the one figured, probably twice as high and twice the diameter. It was usually so high that a man could play it easily when standing before it.

The double-ended drum was between 3 and 4 feet long, made of [illegible] or [illegible] wood. Each end was about 12 inches in diameter, hollowed out to a depth of about 12 inches, and covered with shark skin which was tightened by a continuous lashing of sennit that passed back and forward between the two skins. Toward the middle of the drum two holes were bored through from one side to the other. Sennit was threaded through these holes, knotted together and the drum was slung round the neck by this sennit cord. The drum was beaten in the procession of the winning village to the dance ground when celebrating a sporting triumph. I did not see this double-ended drum; probably it is not an ancient Pukapukan musical instrument.

To play the drum is *lolo ki te payu*. The musician beats the skin surface with the fingers and heels of the hands, using the inner surfaces of the forearms to make stops demanded by the rhythm.

Wooden gongs and the shark-skin drum are still used in Pukapuka today to beat the rhythm for the introduced Tahitian style dancing. An empty

533 kerosene tin is also employed to increase the volume of sound for these dances. The wooden gong has been taken over by the church and is used
534 to sound the time for family prayers and curfew each day.

WEAPONS

411 All Pukapukan weapons were made of wood. They consisted of two types of spear, a heavy throwing stick and a long billet club. Bow and
531 arrow, and shield were unknown.

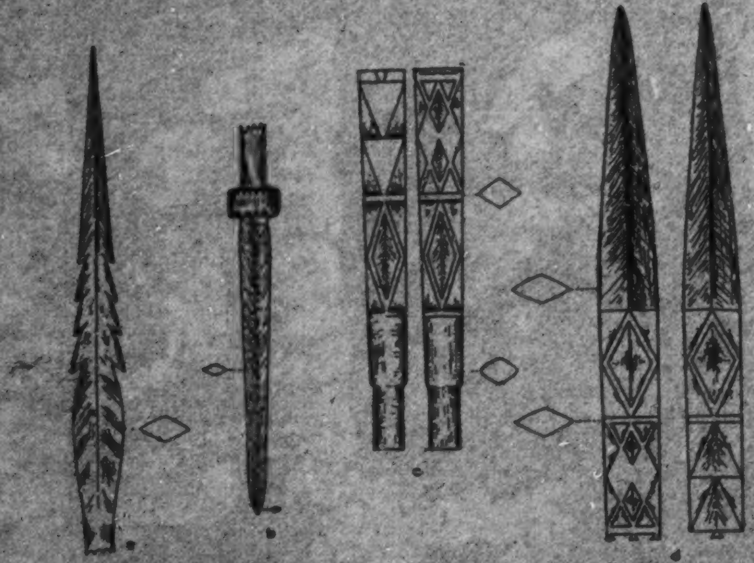


FIGURE 51.—Wooden spears. *a*, point of coconut wood spear (*tao*) (C8109): sharp point with sharp lateral edges, blunt mesial edges; barb commences 11¾ inches from point; barb ridges merge into handle of spear which has diameter of about 1¾ inches. *b*, elliptical guard, 17 inches from butt of spear, has greatest diameter of 2¾ inches, least diameter of 1¾ inches; butt of spear sharply pointed; doubtful whether elliptical guard is constant feature of Pukapukan spears; weight of spear 6⅛ pounds, length 7 feet 10 inches. *c*, middle section of spear (*yuvelovelo*) of *wakenoua* wood (C8066): cross section becomes round, continuing thus to butt of spear; carving designs consist of triangular spear heads (*wakatalo*), single large lozenges (*paiokiole*), and combinations of both; each section separated from following by raised transverse bar. *d*, point section: sharpened with pronounced lateral and mesial edges. Weight of spear 4¾ pounds, length 9 feet 2¼ inches.

This is only example known of Pukapukan carving on implements or weapons; though modern it is probably authentic.

411

Spears (*tao* and *yuvelovelo*; fig. 51) were both thrusting (*yoka*) and throwing (*velo*) weapons. When thrown they were always hurled by hand, a spear thrower being unknown. The heavy throwing stick (*koko*; fig. 52,*a*) was usually thrown at an opponent, the aim being to pierce a vital organ with its sharp point. At close quarters, it might also be gripped in the hand and used as a short stabbing weapon.

The favorite weapon seems to have been the long billet club (*kaio*; fig. 52,*b*). This was often decorated with streamers of *kie* pandanus. It was dipped in salt water before use to ensure a non-slip handgrip. When on guard (*apoapo*), the weapon was grasped in both hands and held horizontal at the waist. The technical stroke with the club was to strike the ankles of the opponent with a sweeping side blow (*te kamu yele*, the tying blow), fell him to earth, and then finish him off with heavy blows on the head. The *kaio* club was also used as a parrying (*alai*) weapon to strike aside spears and throwing sticks flying through the air.

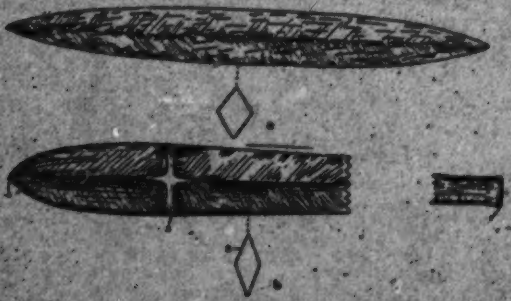


FIGURE 52.—Weapons. *a*, throwing stick (*koko*) of coconut wood (C8108): 27 inches long, width of each of four edges shown in cross section about 2 inches; each end sharply pointed; sharp lateral and mesial longitudinal ridges; weight 3 pounds. A second *koko* (C8107) of same shape is also of coconut wood; 34 inches long, edges about 2¼ inches wide, weighs 5 pounds. *b*, billet club (*kaio*) of coconut wood (C8141): over-all length 6 feet 3¼ inches; proximal end (1) slightly flared, 1½ inches in diameter; round in cross section up to 2 feet 6 inches from end where four blunt edges, lateral and mesial, start; width of each edge at cross section (2) about 2 inches; perceptible transverse ridge (3) intersects longitudinal ridges; four edges come to blunt point at distal end (4); weight 7 pounds. Second club (C3986) also of coconut wood; 4 feet 9½ inches long; diameter of proximal end about 2 inches, cross section edges of distal end about 2½ inches wide; pronounced lateral ridges, very blunt mesial ridges, no transverse ridge; weight 10 pounds.

For good aim in the use of all four weapons, the skilled warrior was careful to gain a firm foothold before engaging his opponent (p. 398). Informants were unable to elaborate on the technical strokes employed in using the *kaio* or other weapon.

SOCIAL ORGANIZATION

61 592 Each Pukapukan individual belongs, by the accident of birth, to six formal social groupings: a tribe, a village, a household group, a bilateral kin group, a grouping of maternal lineages, and a grouping of paternal lineages.

571 192 101 The name for both the island and the tribal grouping of the people as a whole is Te Ulu-o-te-watu. Though there are definite names for village and lineage groups, there is no defining name that may be properly applied to or translated as "tribe". No Pukapukan word expresses the idea of a family; no word is applied to a biological grouping of father, mother, and children. *Wanau* refers to a man's or a woman's family of children excluding the spouse. A man refers to his wife and children as his *fanau*, not including himself. A household group is referred to as a *yikaunga*, the precise meaning of which is a household lot or site; by extension, *yikaunga* is also applied to the establishment of one extended family, including land, houses, property, and persons thereof. When a person refers to a particular household group, he specifies: "te tangata o te yikaunga e noho i te ngutuale o Mea" (the people of the *yikaunga* residing in the private house of So-and-so). The word *ngutuale* refers to one of the several separate household units of the extended family group residing on the same *yikaunga*. Analysis of the composition of the household shows that a biological family does not reside in each *ngutuale*. The household acts as a unit in the production of food for domestic consumption but is always supplemented by a larger group when large scale economic functions have to be carried out. The bilateral kin group is called [illegible], [illegible], or [illegible]. [illegible] is the word in common use, but the three words all refer to a person's maternal and paternal relatives.

124 To procure specific information on the various aspects of social organization a census was made of 54 sample households in Ngake and Yato villages. In Ngake I went from house to house interviewing the oldest member of each household. In Yato, where my knowledge of the household grouping was greater, I procured information without a house-to-house canvass. All disputed points as to lineage affiliation and the like were referred to a group of older men who acted as a board of judges.

VILLAGE MEMBERSHIP

621 562 Membership in a village (*lulu*) by birth, adoption, or formal affiliation gives the privilege of participating in village activities and food divisions. Every person belongs (*tau*) to one of the three villages and shares in the food divisions of that village. One asks, "Ko tau la Mea i wia?" (Where does So-and-so share in village food divisions?). The answer is "Ko tau i Mea" (He shares in or affiliates with Such-and-such a village). Because the men control village food divisions, each woman and child must affiliate through the agency of a man. Of a woman or child then, the further question is, "Ko ai ko tauа?" (Who is it who sponsors her?). The mechanism of affiliation is as follows:

857 597 When a child is born, its parents and relatives decide where it is to affiliate. Generally this is in the village of its birth and residence and through the agency of its blood father. A child whose adoption is arranged for at birth belongs from infancy to

[597] the village of his adopting father. A child who is not adopted and who continues to reside with its parents in the village of birth may be "given" for economic or sentimental
851 reasons to a male relative, blood or affinal, of either parent, to be affiliated by him with his village. A man refers to a child whom he sponsors in this fashion as his *tamaga*
621 *tea*. If he were related only by marriage to the child's parents, he would nevertheless continue to sponsor the child even though he later divorced the woman through whom
602 the relationship was traced. A person who is sponsored by a man in another village is closely united to him by ties of sentiment and interest, even though they live apart. A man would not willingly kill his enemy if the enemy had at one time been his *tamaga tea*, even though of distant relationship. (See story of Tuiva, p. 395.)

621 The result of the practice of sponsored affiliation is a redivision of food between the three villages; persons not residing in a village receive through membership in it a share
262 of its food, including its unique products (as Yato's fruits, beans and papayas; Loto's sugar cane; or Ngakē's supplies of crabs).

In most households only one or two children of a large family affiliate away from the home village. Where there are only two or three children in the family they nor-
591 mally affiliate through their father. Sometimes, though rarely, a *tamaga tea* child takes up residence in the household of the man who sponsors him. This is acceptable to the
261 household because it means a gain of extra food shares (*wai tamaga tea*). The food
621 share of the individual is almost always more than he himself can eat at one time and so must be shared with other members of the household to avoid spoilage.

592 The shift of a member from one large household consisting mainly of young children to a small related household consisting of adults only is recorded. The motive of this exchange was to increase the food shares of the smaller household.

621 The following is an example of the application of village affiliation:

602 A widow who is head of a household (41 in table 5, p. 228) is sponsored in Loto by her brother. The oldest daughter is sponsored in Ngake by her mother's second brother, who resides there. The second daughter is sponsored in Loto by the mother's brother, who
592 also sponsors the mother. The next child, a son, is sponsored in Loto by a distant relative of his mother. Another son, adopted but not living with his adopted father, is a *tamaga tea* of that man in Ngake. The next son, the only one affiliating in the village of residence, is a *tamaga tea* of his mother's sister's husband. The infant son affiliates in Ngake with the mother's brother. With no adult male food gatherer in the household, the affiliation arrangement of the children in all three villages brings in the maximum share in food divisions, as all but one member affiliate in Loto and Ngake, the two villages having the largest food reserves. The mother is also able to maintain close ties with her relatives in other villages so that she is not forgotten when a related fisherman
[888] makes a good catch. These results are all achieved without sacrificing children by adoption; when the children grow up, the mother is assured of ample support in her old age.

591 The shift of an individual from one household to the next within the same village involves no change in village membership. The shift from a
621 household in one village to one in a different village is accompanied by change of affiliation:

623 Each village holds an annual meeting to make up its membership rolls governing food divisions, organization of work, and composition of reserve land guards and contest teams for the succeeding year. At this time a man who wishes to change his affiliation or to take on a new affiliate from another village requests the head man of the village (today usually an Island Council member) to add his or the child's name to the village rolls. Village members discuss the names of applicants which are added to the village lists if no valid objection is offered. The new member, called a *wilo* of the

591 village to which he changes his affiliation, has equal rights with those whose membership
is by birth or adoption.

621 On achieving sociological adulthood ([illegible], [illegible]), a young man or
woman may change (*wilo*) his village affiliation. Several boys have so changed village
affiliation. A man might break away from his paternal group against its wishes and
613 join another village. Divided loyalties might cause difficulties with his fellow-villagers
and he would gain the reputation of being a trouble-maker or a lazy person. If he
884 wished to rejoin the village of his birth, it would refuse to accept him or make unacceptable
conditions of readmittance. The only course open to him would be to try to join
[578] the third village or to accept the conditions even if it meant the indignity of receiving
a child's food share for one year.

No girl is known to have availed herself of her theoretical *wilo* privilege at the time of attaining adulthood. On marriage a woman automatically becomes a member of her husband's village to be sponsored by him, unless the couple take up matrilocal residence, in which exceptional case the husband becomes affiliated with his wife's village. No example of a husband and wife who affiliate in different villages is known.

The village in which a child is to affiliate may be determined by the likelihood of later inheriting talo beds or other properties in that village from the relative who is to sponsor it. Similarly a person may change his affiliation to the village in which he has come into possession of talo beds, house site, or coconut trees.

Informants suggested that formerly a man who became a new member of a village was expected sooner or later to change his residence to that village in order to reduce to a minimum tale-bearing, transfer of village secrets, plans, and policies, and the conflict of loyalties inevitably provoked by changing village allegiance. As long as change of residence accompanied change of affiliation, there was no objection to frequent change of membership. Indeed, if the new member was a champion in any sport his joining was welcomed by a village, though formerly when membership of competition teams was based on lineage affiliation, the new member often had to cut across these kinship ties because of village localization of paternal descent groupings. Change of residence does not often accompany change of village membership today, though with adults, it would be welcome as evidence of complete identification with the village joined.

621 Today, as formerly, a man without a village affiliation is lost and outcast.
One who gains an unenviable reputation for antisocial conduct has to accept
152 humiliation in order to secure a status, however slight, in the island community.
626 There are no records of men without village affiliation. Village
558 membership is evidently a fundamental necessity of Pukapukan social life.

MATERNAL LINEAGES

613 The *wua* is a maternal lineage which embraces several maternal sub-lineages
616 each of which is called a *keinanga*. By lineage is meant a unilateral
group of real blood kin. The *wua* is not to be confused with the maternal
side of the bilateral kinship group. Descent within the *wua* is strictly
maternal, whereas the maternal side of the bilateral kin grouping refers to
613 both maternal-maternal and maternal-paternal descent lines. *Wua* means
616 the life-generating female organs, and its extension to a definite maternal
social grouping is a recognition of the importance of maternal descent as a
124 cohesive principle which binds together the members of the group. Membership
773 is by birth, with certain qualifications relating to adoption (p. 255).

The origin of the *wua* was discussed with informants on several different

[124] occasions. There is much confusion in their minds on the subject, and no
613 two men agree on all points of the story. The account given below will
773 serve as a basis for the discussion of individual interpretations of the origin
616 of the *wua*:

539 Ko Punga ma Punga Momoto, e lua tamaliki o Tumulivaka ma Te Matakiate. Ko ye taka lelei na mo konga ia ma, me na Tumulivaka, me na Mataliki na tama ia. Koa matutua i a Punga ma Punga Momoto. Wanau loa na tama a Punga Momoto: ko te mango, ko te tawola, ko te wui ika pau. Yau na toe tama, ko te kati, ko te tupa, te kaveu, te kile, te tuli, te kawe, te wui tupua o lunga o te wenua. Ko na tama ia a laua ko te wui ika o te moana, ko te wui tupua a lunga o te wenua. Kua noho latou i lunga o te wenua, mea latou i na yanga kikino.

Punga and Punga Momoto were two children of Tumulivaka and Te Matakiate. These and other parts (of the story) are not well understood; (that is) whether (they were) the children of Tumulivaka or of Mataliki. Punga and Punga Momoto were (now) grown up. The children of Punga Momoto were born: the shark, the whale, all of the many fish. Next the other children, the land creatures, the *tupa* crab, the robber crab, the *kile* bird, the sandpiper, the curlew, all the creatures on the land. Their children (then), were the many fish of the sea and the many creatures of the land. They lived on the land, carried out their evil works.[*]

Lili loa te atua, ko Mataliki. Lapa loa ki te uila mai lunga o te langi. Mimia loa na tamaliki a Punga ma Punga Momoto. Awungia loa latou. Mimia loa na toe tamaliki, welele loa ki loto o te moana, nanai; mai te tawola, te mango, te kakai, te pala, te wonu,—te wui ika,—mimia ki loto o te moana; mimia ki loto o te alo: mai te kiliotawaki, te ataolua, te tiwitiwi, te yama, te laumunui, te tau kokoti,—ko te wui ika i loto o te alo. Yau na toe tama a laua, ulu ki lalo o te wenua, mai te kaipea, te unga, te kaveu, te kiole, ko te wui tupua i lunga o te wenua. Ko na toe tama a laua, welele atu ki na konga mamao i na toe pa wenua, nanai: welele lalunga o te uluwenua, mai te tuli, te kawe, te kolili, te polopolounga,—te wui manu e welele la lunga. Wanau ai te wuanga o te mango, e tangata i lunga o te wenua. Tapai loa te ingoa o te wua o latou, ko te wua o Te Mango. Peia oki te tama a te tawola: wanau oki te tawola tana tama, e tangata. Ko tona tino o te tawola ia, na wano ki te moana, tupu atu ai, wai ika mo te moana. Ko tana tama na wanau i lunga o te wenua, tapai loa tona ingoa, Te Manga o Te Wui Tawola.

The god Mataliki became angry. He struck (the land) with lightning from up in the sky. The children of Punga and Punga Momoto hastened away. They were scorched. Some of the children disappeared, ran into the sea, hid there: such were the whale, the shark, the albacore, the *Ruvettus*, the turtle,—all the fish rushed into the sea, (or) rushed into the lagoon, such as the *kiliotawaki*, the *ataolua*, the *tiwitiwi*, the *yama*, the *laumunui*, the *tau kokoti*,—all the fish of the lagoon. Next, their other children hid under the land, such as the *kaipea* crab, the *unga* crab, the robber crab, the rat, all the creatures on the land. Their other children flew away to distant places in other island groups, hid there: they flew above the treetops: these were the sandpiper, the curlew, the plover, the turnstone,—all the birds that fly on high.

The shark gave birth to its offspring, a human being on the land. The name of their *wua* was given, the *wua* of Te Mango (the shark). Similarly the children of the whale: the child of the whale was born, a man. The body of the whale went to the sea, grew there, breeding fish for the sea. Its child born on the land was given its name, Te Manga o Te Wui Tawola (the branch of the whales).

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[835] [*] The reference to "evil works" reflects the embarrassment which informants feel regarding the incestuous propagation of their land.

539 Ko te tupuanga o te Wua Lulu: Me te mea ko te wawine no loto mai ana te wua, e tupu mai ai te tangata. Wanau ai loa, tupu ai tangata. E wua ia no te Pukapuka. Pe la oki na tama a Punga Momoto: e wua oki te mea ko tupu mai ai. Tupu loa te wua, ko te Wua Lulu.

Wanau ai na tama a Te Mango, a te tangata i lunga o te wenua nei: ko Te Lokie, e tamawine na Te Mango; ko Yeitae, ko te toe tamawine a Te Mango; e lua manga na Te Mango. Wakatupu i a Lokie tona wuanga, tupu mai. Peia oki i a Yeitae.

Ko Te Tawola, koa wanau tamaliki Te Tawola: Ko Te Yelu, ko te toe tama a Te Tawola; ko Te Manga o Te Manu, ko te toe tama a Te Tawola. E lua na tama a Te Tawola, ko Te Yelu ma Te Manu. Pau ai na tamaliki a Punga Momoto na wanau o te moana.

Ko na tamaliki a Punga Momoto na nana ki ngauta: Ko Te Kati, ko Pukapuka te toe, ko Malemu te toe, ko Te Lawala te toe. Ko te toe tama a Punga Momoto, Te Kiole. Ko te toe, Kenakena. Ko te wanau a Kiole, wanau mai ai te tangata; peia oki te wanau a Kenakena, peia oki te wanau a Pukapuka, peia oki te wanau a Malemu, peia oki te wanau a Te Lawala. Koa wanau a latou tamaliki wolo ki lunga o te wenua. Koa wolo te tangata ki lunga o te wenua.

As to the growth of the Wua Lulu: (it is) like a woman inside of whom is the ovary from which grow people. She conceives, people grow. This, in Pukapuka, is called *wua*. Like this were the children of Punga Momoto: it was a *wua* also which grew from them. The *wua* grew, the Wua Lulu. (This included both the *wua* of Te Mango and the branch of the Tawola.)

The children of Te Mango, of the people on this island, were born. Te Lokie was a daughter of Te Mango; Yeitae, the other daughter. These are two branches of Te Mango. Lokie produced her offspring; they grew. Yeitae did the same.

As to Te Tawola, Te Tawola bore children: Te Yelu was one child of Te Tawola. The branch of Te Manu (the Bird) was another child of Te Tawola. There were two children of Te Tawola, Te Yelu and Te Manu. This finishes the children of Punga Momoto born of the sea.

(These are) the children of Punga Momoto who hid inland, (that is) the Kati: Pukapuka was one, Malemu another, Te Lawala another. Another child of Punga Momoto was Te Kiole (the Rat); another, Kenakena. As to the children of Te Kiole, people were born. So too the children of Kenakena, of Pukapuka, also the children of Malemu, and also the children of Te Lawala. Their many children were born on the island. The people on the island were many.

613 NOTE: The above account stresses the point that the children of Punga and Punga Momoto were animals of the land and animals of the sea. In earlier discussions, other
773 informants stated that the offspring of these two grandchildren of Mataliki were humans. When the lightning struck the house in which Punga and Punga Momoto were
539 living, the children rushed outside to seek protection. Some ran to the sea for shelter, hiding under the water, under reef coral heads. Others of the children rushed to the
616 bush, and hid under trees, in the holes of land animals, under rock shelters. When the panic was over, one of three things happened. The text account states that the land animals and the sea animals gave birth to human children who became the ancestors of the various lineages. Another version is that the human children came from hiding and then commemorated the event by taking names from land and sea animals, according to whether they hid in sea or on land. A third opinion is that the children remained forever where they hid and were turned into land or sea animals. According to this version, not all the children were stricken with panic. Those that remained human named themselves after the forms of their now transformed brothers and sisters and these names

613 [535] became the names of the lineages thus formed. The variations need not be reconciled. They are interesting as variations on a theme that explains mythically the origin of an important social group.

773 616 In the beginning when the maternal lineages were thus originated there were two main groups, Kati and Lulu. Kati is the generic name for all land creatures; hence Wua Kati may be translated as the land people. Lulu is the common term for a gathering and refers here to the remainder, those not land people. Hence the Wua Lulu is the sea people. These two main maternal lineages are again divided into two main sections. The divisions of the Wua Kati are Wua Uila (lightning) and Wua Kati. The divisions of the Wua Lulu are Wua Tawola (whale) and Wua Mango (shark).

611 773 Another account states that the main divisions in the beginning were Wua Lulu and Wua Uila, which on subdivision became Wua Mango, Wua Tawola, Wua Uila, and Wua Kati. Hence whatever the priority of names, the result on subdivision is the same in both accounts. Informants were unclear as to whether there was a priority of groupings such that originally there was a clear dual division, which later became a fourfold division, subsumed by two main named groups. The text account suggests not. Other statements suggest that of the Lulu group, Mango was the first-born child, Tawola the second-born child. This would definitely mean temporal priority for a dual division. The matter is important, because the suggestion is here strong that originally the maternal division of Pukapukan society was in terms of matrilineal moieties, perhaps of matrilineal phratries. I think it
613 likely that whatever the matter of priority, which cannot be decided at this
773 date, there was originally a dual division, each division being again subdivided into two groups, such that a matrilineal group of sea people was
616 opposed to a matrilineal group of land people. Further discussion of the functions of the maternal lineages will show that this dual organization was important for both economic and social organization.

613 616 The text account states that a further division into maternal sub-lineages (*keinanga*) occurred at the time of the original formation of the groups. Other informants agreed that as the maternal grouping became numerically large and too unwieldy to control its members, various women broke away from each lineage to form smaller matrilineal sub-lineages (*keinanga, momo,* or *manga*), each of which, however, remains subsumed under the larger grouping. The grouping of this later period, which continues to this day, is as follows:

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Wua Kati (moiety)	1. Wua Uila—Keinanga	a. Kiole b. Loloa c. Kenaleena
	2. Wua Kati—Keinanga	d. Pukapuka e. Malemu f. Lawala g. Walawale
Wua Lulu (moiety)	3. Wua Mango—Keinanga	h. Kava i. Lokie j. Yeitae
	4. Wua Tawola—Keinanga	k. Yalo l. Yelu m. Manu

Informants tended to visualize the matter in terms of a tree with spreading branches and limbs (fig. 53). The names of the sub-lineages as given in this figure represent a final decision by informants. Other lists, procured at an earlier period of field work, differ a little in the given names. A second list of lineages and sub-lineages, probably for a later date when some sub-lineages had died out or were displaced by other named groups, is given below. The first list is probably the classic list; the second is the grouping as some understand it today.

Wua Kati (moiety)	1. Wua Uila—Keinanga	a. Kiole b. Kenaleena
	2. Wua Kati—Keinanga	c. Malemu d. Lawala e. Pukapuka
Wua Lulu (moiety)	3. Wua Lulu—Keinanga	f. Mango g. Kava h. Lokie i. Yeitae j. Lakawanga
	4. Wua Layo or Yalo—Keinanga	k. Yelu l. Tawola m. Manu

An analysis of the lineage membership of 160 adults showed 89 members of the Wua Lulu, 69 of the Wua Kati, 1 of Layo, and 1 member of Yalo.

The individual who first gave his membership as Wua Layo, Keinanga Tawola, later gave his affiliation as Wua Lulu, Keinanga Kava. Sixteen who said they belong to Keinanga Lakawanga gave Lulu as their major maternal grouping; one member of Keinanga Lakawanga gave Yalo as his major maternal grouping; this last is either a mistake or else Wua Lulu is to be understood as moiety Lulu, which is more likely. The three persons who gave their grouping as Uila, Keinanga Kiole, are brothers and a sister; a third brother said he was a member of Wua Kati, Keinanga Kati. Kati was given as the major maternal grouping of 16 other members of the Keinanga Kiole; here again Kati must have the sense of moiety. The point to note, however, is that the large majority, 155 out of 160, gave as their *wua* either Lulu or Kati, thus giving the very definite impression that these two groupings are still functioning in Pukapukan society as effective moiety groupings of the maternal lineages.

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Each of the 160 adults professed membership in one of 12 different sub-lineages (this excepting the person who gave a double identification, first, Layo, Tawola; then Lulu, Kava). The active sub-lineages in the moiety Lulu are: Mango, Lakawanga, Yelu, Kava, Yeitae, Lokie; those in the moiety Kati: Kiole, Pukapuka, Kenakena, Lawala, Kati. The relative numerical strength of the sub-lineages is: Kava (L) 36; Yelu (L) 24; Kati (K) 20; Kiole (K) 18; Lakawanga (L) 18; Pukapuka (K) 12; Kenakena (K) 11; Mango (L) 7; Lawala (K) 5; Yeitae (L) 4; Lokie (L) 4. The relative numerical strength of these sub-lineages might possibly be altered by adding in figures from Loto village, but, because there seems to be an equality in the village distributions of the sub-lineages, the relative strengths would not differ materially from the serial order given above.

Twenty individuals gave their affiliation as Keinanga Kati, Wua Kati, either because they did not know their sub-lineage and gave only their moiety, an unlikely matter, or else because some individuals claim descent through a major maternal lineage directly and not through any sub-lineage. When the smaller groups were formed by the breaking away of lineages, some individuals remained members of the original *wua* grouping, so that the four *wua* must be considered both as groupings of smaller sub-lineages and also as single lineages in their own right. This single *wua* descent is noted for both Kati and Mango in the above list of membership strength. No examples are on record for Tawola or Lulu, but doubtless they do occur also.

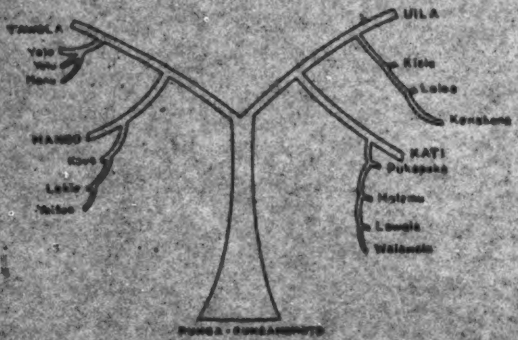

FIGURE 33.—Branching of maternal sub-lineages (*keinanga*), from informant's drawing. Main trunk of tree represents total population; main branches four main groupings of maternal lineages (*wua*); remaining smaller branches, individual sub-lineages.

The *wua* membership of the 38 heads of households in Ngake village was noted; 16 belong to the Lulu division, 20 to the Kati division. This shows a reasonable amount of moiety equality, and seems to indicate in fact that there is no tendency to either moiety or lineage localization. This is presumably explained by the rule of patrilocal marital residence.

The internal organization of each maternal lineage is simple. The head (*waka'auila* or *wakaiula*) of the lineage is the oldest man or woman in the

613 616 group. If the head is a male, he is succeeded at death by the next oldest member, sometimes by his sister's son. His functions are light. He acts as gift-giver at the *wacle* feasts for first-born children in the families making up the descent group. He represents the lineage at inter-lineage and village meetings, arranges for the carrying out of its activities in games, competitions and feasts. He has no special status in the community beyond a certain position within his own group, based on seniority. There is no record today of internal moiety organization, but it is likely that the senior lineage within the moiety formerly appointed a head man to oversee the affairs of the moiety.

774 No tapu objects are linked with the maternal lineages today. No gods were linked with them in former times.

776 Informants had little clear memory of any association between moiety, lineage, or sub-lineage and plant, animal, or natural phenomena. There is no suggestion of any relationship that could be construed as totemistic.

It is possible that formerly each lineage had associated with it a type of decoration, or an object used as a status or prestige symbol. A suggestion of this occurs in the chant, "Panenu Te Watu, kino te wenua" (1); informants thought a reference to the *lei*, a seaweed that grows in the ocean and is said to color the sea red or yellow or green, was associated in some way with the Wua Uila. Informants were unable to define this relationship, nor could they in general give the names of other plant or natural phenomena linked with any of the other lineages. Two reliable informants, however, asserted that the *wetou* and coconut trees were linked with the Lulu, and the pandanus tree with the Kati groups. They could give no details of this linkage and this reference may refer to a time when there was a type of prestige symbol associated with each lineage, a matter otherwise totally forgotten today.

613 Today the sub-lineages are strictly exogamic. To marry a member of one's own sub-lineage is to commit incest (*kai wale*, "house eating" or *kai kiko*, "flesh eating"). There was no secular punishment for this breaking 582 of tapu, but the goddess Taua or the god of his paternal lineage would punish a male deviant with sickness, tumors, or accidental death by falling 684 from a tree; and Mataliki or the god of her paternal lineage would punish a woman with sickness, accidental death, difficult childbirth, loss of her child in childbirth, or barrenness. 776

The maternal lineages are neither exogamic nor endogamic. The members of a lineage, provided they do not belong to the same sub-lineage, may intermarry if the other rules governing marriage, avoidance tapus, and rules of consanguinity are not infringed. 613 616

618 In former times, before the sub-lineages had subdivided themselves from the lineages, the moieties and lineages were possibly exogamic, and the lineages functioned as [illegible]ns. As the number of lineages in each group increased and subdivided into smaller functional units, each sub-lineage continued the pattern of exogamy derived from the larger unit, and there was then no need to stress lineage exogamy. More precisely, exogamy, 582 171

613 616 [582] 171 transferred to the smaller sub-lineages, took the place of exogamy in moiety and lineage. As long as there was one lineage in the *wua*, the *wua* was exogamous. When many sub-lineages developed within the *wua*, the sub-lineage still remained exogamous but not the lineage, since blood relationship was closer, owing to consanguinity, within the simple sub-lineage than within the wider grouping. This is admittedly speculation, but it explains the manner in which the fundamental pattern of exogamic matrilineal groups, so widespread in western Oceania, may have developed in the evolution of Pukapukan society.

613 The maternal lineage functions as a unit in fishing and sporting contests, and in certain types of food divisions. (See pp. 231-232.)

616 226 578 Some informants believed that the four major lineages divided into two moieties (each called for this purpose *wakatai*) once formed fighting units occasionally opposed to each other. Such a moiety fighting force had no organization and was commanded by a selected warrior (*toa*). Other informants stated, however, that there is no record in Pukapukan history of such fighting as this arrangement would suggest, with all the men of the island engaged in pitched battles. This is certainly true; Pukapukan fighting in general seems to have been a matter of one age group tyrannizing over another group, petty murders, guerilla revenges, and killings by violent chiefs. More important conflicts over land boundaries were always decided on a village basis, with no scope for moiety division. It is possible that moiety divisions for games and contests were at one time more customary than single lineage divisions, and the belief about fighting units is merely an extension of a type of organization, which, in terms of Pukapukan patterns, represents the most reasonable division to cover warfare were it ever a matter of importance to the community.

616 613 423 244 Today the maternal sub-lineages, not the lineages or moiety groupings of lineages, have effective economic functions in the control of land, principally the control of talo beds. The talo beds owned by a sub-lineage are divided among both male and female members of the sub-lineage. There is no permanent subdivision of these talo beds; but they are divided at regular intervals as composition of the sub-lineage corporation is altered by birth and death. The ultimate controlling unit of the sub-lineage land is, of course, the major lineage; when a sub-lineage dies out, the talo beds are redivided among the remaining sub-lineages of the group.

613 672 696 681 Formerly the sub-lineage assumed collective responsibility for antisocial actions voluntarily or involuntarily performed by its members. This is clearly brought out in historical stories relating to homicide (1). When a man commits manslaughter such that the island as a whole concerns itself with retributive punishment, his maternal sub-lineage either allows itself to be punished along with the guilty individual or else assumes responsibility for the punishment or suicide of the murderer. When punishment by drowning is decreed, members of the sub-lineage may feel the disgrace so keenly that they will bury the body secretly by night, even though in so doing they oppose majority opinion and would be severely punished themselves if discovered. That it is always the maternal and not the paternal sub-group, which is charged with responsibility in these matters, stresses the strength of relationship ties based on maternal descent.

PATERNAL LINEAGES

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764
There are seven principal paternal lineages in Pukapuka. Each lineage is a *po*. The word *kainga* is used synonymously with *po*, but informants thought this usage modern. The term *po* is also applied to the burial ground associated with each paternal group. Other meanings of *po* are "night" and the "Underworld". When a man talks of his *po*, he means his paternal lineage and the piece of ground where he will be buried. The importance of the burial ground as giving a symbolic locus of reference for the varied functions of the lineage is shown by the fact that when asking the paternal lineage membership of a person one does not say: "What is his *po*?" but, "Where will he be buried?" (*Ka tanu i wea?*) The answer always provides the name of the burial ground. On the other hand, in narrative the name of the *po* is always used as an adjective to indicate paternal descent affiliation; as, "Ko Pakula, e tane Matanga" (Pakula was a man of Matanga *po*).

Membership in a paternal lineage is by birth or adoption. An individual is buried in the cemetery of his sociological father. A woman is buried in the cemetery of her father; her children, male and female, are buried in the cemetery of her husband. Each of the paternal lineages is divided into a number of smaller paternal sub-lineages called *wakavae*. Each major cemetery of the lineage is divided into a corresponding number of sections, also called *wakavae*. Hence a man and his children belong to a *po* but also to a *wakavae*. The *wakavae* may be regarded as a paternal sub-lineage, the *po* as a grouping of paternal sub-lineages into what is here termed a lineage. A final list of Pukapukan lineages and their sub-lineages is as follows:

613

VILLAGES	PATERNAL LINEAGE (PO)	PATERNAL SUB-LINEAGE (WAKAVAE)
Ngake	Muliwutu	Yalou, Aliki, Alia
	Matanga	Paku-i-tua, Te Manako, Waka-moe-ki-te-loto, Angialula
Loto	Yangalipule or Tilotilowia	Wakavae-ki-mua, Yangaliponepone, Yamanaia
	I Tua	Wakavae Aliki, Wakavae-ki-muli, I Tua, Walanga-kula
Yato	Yamaunga	Wakavae-ki-mua, Wakavae-ki-muli
	Yayi	Tokelau, Matanga
	Yalongo	Wakavae-ki-mua, Wakavae-muli-vae, Walepia

NOTE: Various lists of the lineages and sub-lineages were collected during our stay. The above list represents the names procured toward the end of our visit, and is a clarification of earlier lists. As with the names of maternal lineages (*wua*) and sub-lineages (*keinanga*), there was a progressive clarification in the minds of informants as our investigation proceeded. Common, uninstructed opinion tends to confuse paternal lineage and sub-lineage, a natural tendency, perhaps, to promote one's sub-lineage to the status of a lineage. It is likely that the relative numerical strength of lineage and sub-lineage, and also their status, have fluctuated during the course of Pukapukan history owing to natural causes and to the predominance of certain personalities at certain times.

613 Neither paternal lineage nor sub-lineage was exogamous or endogamous.
Intra-marriage was governed by rules of consanguinity. No totem objects
771 or prestige symbols were associated with any of the paternal lineages. Certain
gods were associated with the paternal groups. (See p. 308.)

The amount of lineage localization in the two villages for which information
613 is available is comparatively large, as is to be expected from the
operation of the rule of patrilocal marital residence. Of 39 male heads of
591 households in Ngake whose residence is patrilocal, 37 men or 95 percent are
621 members of the two Ngake paternal lineages, Muliwutu and Matanga. In
Yato, 27 out of 33, or 82 percent, are members of the three Yato paternal
lineages, Yamaunga, Yayi, and Yalongo.

There is no mythological account of the origin of the patrilineal lineages.
613 Informants make the simple statement that after the seismic wave that
731 devastated the island thirteen generations ago, only 15 men and their families
were left of the original population. From these men the present population
173 has descended. Seven of the men founded anew and named patrilineal
lineages from which, by a process of fissure when numbers became great,
other minor sub-lineages split off. Nothing is known of the lineages previous
to the seismic wave, but informants presume that there were in existence
similar named patrilineal lineages.

613 Various instances of irregular lineage membership came to my attention:

Children of a Pukapukan woman and a non-Pukapukan husband, white or native,
[523] go to the mother's cemetery for burial; the husband also acquires membership in his
wife's paternal lineage.

764 One Pukapukan whose wife is deceased, has remained, together with his children,
in residence in the household of his father-in-law. For reasons of sentiment, he has
arranged with his father-in-law for himself and his children to be buried in his late
848 wife's cemetery, the cemetery of his father-in-law.

The child (*tama to taka*) of an unmarried mother is a member of its mother's
paternal lineage, unless later adopted by the mother's husband when she marries. A
child conceived out of wedlock, but born after its mother's marriage to a man not the
physiological father of the child, is regarded as the child of his mother's husband and is
[851] a member of his paternal lineage; the husband becomes the sociological father of the
child.

613 X is a *tama to taka*, adopted into the paternal lineage of his maternal grandfather's
father. His grandfather does not belong to that group, having been adopted into another.
X's mother belongs to the lineage into which her father was adopted. Wishing for
577 sentimental reasons that her son and offspring go to the same cemetery as her father,
she is going to substitute for her son, and be herself buried in the lineage-cemetery into
which he was adopted, so that he and his line may exchange groupings with her.

764 Only one instance is on record of sharing children between the lineages of the
father and of the mother. The siblings—father, father's sister, father's brother—in
177 household 45 of table 5, all belong to the paternal lineage of their mother. Three
siblings, now dead, all went to the father's paternal lineage. No adoption was involved
in this division of the children among the two groups. It was specifically described as
an idiosyncrasy on the part of both parents for which no motivations could be advanced
today, as the arrangement was made about 55 years ago. It is possible that the division
was influenced by southern Cook Islands practice.

613 The part played by the paternal lineages in regulating marriage, descent,
succession, and inheritance, and the relative importance of maternal and
paternal lineages in social organization are discussed elsewhere.

Close bonds unite a man to his paternal lineage and to his burial ground.
Admittedly, he inherits land, coconut trees, and houses through his father,
but beyond this, there is a real sentimental bond binding a man to his paternal
grouping. It is always the paternal lineage and never the maternal lineage
of a man that is mentioned at the beginning of each genealogy or story; informants
somehow felt that by naming his paternal lineage, the hero of the
764 story was placed and his status in the community accurately defined. The
resident agent has had great difficulty in persuading the people that some
613 cemeteries are too close to the villages to accord with ideals of modern public
health. The conflict has become acute when the agent has insisted that the
177 cemeteries be closed or the villages moved elsewhere. Either alternative has
seemed impossible to the people of the lineage affected, and in one prohibited
364 cemetery a burial was prevented only by placing the Union Jack across the
already gaping grave and appealing to the loyalty of the people not to touch
186 the sacred emblem of Pax Britannica.

The paternal lineage does not seem to possess any formal structural
613 organization. There is no council of the men of the group. Formerly each
lineage had its constituted priests who worshiped the gods of the lineage in
religious structures erected on lands of the group. Each lineage had a
secular leader, with the rank, in a minor lineage, of sub-chief (*langatila*),
in a major lineage, of high chief (*aliki*) or chief (*wui aliki*). (See pp. 234-
192 237.) Doubt exists in the minds of informants as to whether the word *langatila*
is a Pukapukan word; some informants insist that it is not and that the
correct designation for a minor chief was formerly *wui aliki*, a collective
word also applied, apparently, to an individual. Today *langatila* and the
Rarotongan word *mataiapo* are used to designate the two groups of minor
chiefs.

LINEAGE AND VILLAGE

613 For feasts, sports, and games, the community divided itself into smaller
units based upon paternal lineage (*yolongo* unit), maternal lineage (*wua*
618 unit) or village membership (*matoyinga* unit, sometimes called *lulu kakai*),
621 depending upon the specific activity. Membership in the *yolongo* unit is
modified by the rule of patrilocal residence so that children adopted elsewhere
and members of the lineage married into another village are excluded
while persons residing with the patrilineal group through marriage or adoption
are included.

612 Team membership for fishing and sporting contests was formerly always based on
maternal lineage membership. One moiety contested against another moiety. At a later

618

616 period, organization was in terms of either wua or *yolongo* units. Village membership
is the rule for team organization today, so that Loto village contests with Ngake and
613 with Yato villages. It is probable that missionary effort hastened this change. Infor-
mants believed, however, that groupings of maternal or paternal units are superior to the
797 village grouping. The following example was given: suppose there is a man who was
born in Ngake, but who affiliates and resides (*wile*) in Yato. In an inter-village contest
621 he fishes for Yato. He hooks a fish. If he pulls it into his canoe, his Ngake friends
are angry with him for catching a fish for a rival village, and thus helping to defeat the
578 village of his birth. If he lets the fish escape, his Yato friends are angry with him for
remembering the village of his birth to the exclusion of his adopted village. Hence the
226 man is at the mercy of conflicting loyalties, and he antagonizes friends whichever way
he acts. The old maternal or paternal organization, therefore, was superior to the
present village division.

Food divisions following fishing contests and other games are always in terms of
612 either maternal or paternal organization. They are arranged in advance by village
elders and food distributors. Before the division of food for a fishing contest (*molomo*),
621 the food dividers asked me how I wished the food to be divided. As I left the respon-
sibility to them, they decided to make the division on the paternal (*yolongo*) principle.
618 The food was first divided into three equal piles for the villages; then each pile was
divided among the paternal lineages of each village.

574 Food divisions at marriage and birth feasts were formerly always in terms of
maternal units. This is still common today, though division is sometimes made among
the actual household groups concerned in the marriage. Food divisions of reserve lands
produce are always in terms of village division. This follows the rule that control of
reserves and work thereon is always maintained by village groupings.

613 It is a permissible speculation to consider Pukapukan history as a struggle
for dominance between these three social groupings, principally however,
616 between the maternal and paternal lineages. At the present time, the paternal
lineage is much more important in social organization than the maternal
618 grouping. The maternal sub-lineages still influence marriage and control
land, but they share these functions with the paternal lineages and with the
597 villages. The smaller maternal lineages seem to be dying out, or at least to
611 be more and more subsumed by the moiety groupings. Dwindling numbers
could easily be remedied by recourse to adoption, but maternal lineage adop-
tion is rare, for the reason that few wish to take the trouble to keep the
maternal lineages alive. The fact that the maternal lineage memberships of
the principal characters in legends and stories are not remembered suggests
that even in an immediate past these groupings were not so important as the
paternal groupings. At the present time, the paternal lineage is strong in
its control of wealth, rank, inheritance, and succession. Both paternal and
maternal lineages control food divisions and previously controlled organiza-
114 tion for contests.

Kennedy (19,p.297), speaking of Vaitupuan social structure, especially
171 with reference to the exchange of presents at marriage and birth, sees definite
611 evidence "of dual organization and matrilineal descent". The maternal line-
age in Pukapuka also functions as a controlling unit at birth and marriage.
148 Kennedy believes that in respect to dual organization, Vaitupu "was at a

114 stage of transition from matrilineal to patrilineal descent wherein the point of equilibrium had not long been passed in favor of patrilineal descent."
171 This is strikingly parallel to Pukapuka, but unfortunately Kennedy's analysis of Vaitupuan social structure is so unclear that no more particular com-
611 parisons may be made.

178

POLITICAL ORGANIZATION

AGE GROUPS

561 Pukapukan society has a well-developed system of age grades through which each individual passes. Political functions for the island as a whole
646 were at one time exercised by men of the oldest age group, the *tupele*. These
623 men served as an advisory council to the chief (*aliki*), who might be of any age group. Control of village affairs was and is nominally in the hands
562 of all the men of the village, though older men naturally have more power because of their experience; women have no formal political duties. Mem-
887 bership in successive age groups was determined by the functioning of a mechanism called *tai tangata*:

> 805 The age of a person is reckoned from birth. The first woman to give birth to a first-born child in each season of six months, whatever her paternal or maternal lineages or her village, announces that her child is the *tai tangata* for that six-month period,
> 561 which is then called *te takalonga o Mea* (the year—six months—of So-and-so). All other children born in the same period are classed in the age group of this *tai tangata* and are known collectively as a *tai tangata* group. Hence a man says: "Koa wanau au i te takalonga o Mea" (I was born in the year of So-and-so), or, "Ko Mea, te wakaului o taku tai tangata" (So-and-so is the first-born of my *tai tangata*). If, as occasionally happens, no first-born child is born in the *maina utuutu* (pleasure moons), then the eldest first-born child of the succeeding *maina ya* (tapu moons) becomes the *tai tangata* of the preceding *maina utuutu*, and all children born during the twelve-month period are classed with this *tai tangata*. There is thus a slight variability in *tai tangata* periods, but the important thing to remember is the serial temporal order of the *tai tangata*. This enables a person to reckon his age with sufficient accuracy for practical purposes. One *tai tangata* group succeeds its predecessor in progressing from one age grade to the next. No mnemonic device is used to keep track of the order of *tai tangata*.

561 The Pukapukans named a number of age grades or life periods:

Kulápupuni (child covered by a mat): infant up to the age of about 3 months.
Kulamoemoe (sleeping child): infant from 4 to 12 months.
Koumoto (immature coconut): boys and girls from walking age to about 10 years, also called te tamaliki or te kauliki (children).
Tamalonga and tautitinga (to put on a malo or kilt): youths and girls who have reached sociological adulthood.
Kivatangaloa: young people who have assumed first responsibilities as adults; more commonly called lopa and tamawawine.
Tane and wawine: married men and women, adults with families.
Malivaia or tangata matua: older men and women of the community, from the age of about 50 years on.
Tupele: the old, grey-haired men of the community, sometimes called in general te kau matutua.

561 646 623 888 The *lopo*, *tane*, and *wawine* carried out much of the economic and social activity of the community. The *mulivaka* generally directed group activities by virtue of their experience. Their advice was also listened to with respect in informal village meetings, and they took the lead in organized village work. The *tupele*, the most important group in the political organization and control of the island as a whole, formed a sort of island council, which, with the chief, governed the island both politically and economically. Each old man lived with his wife and family in his own village but was relieved from the necessity of providing himself with food; the *tupele* were supported by the community, by gifts of talo from the women and by fish caught by the men's *tangonga* fishing group.

887 646 All gatherings and meetings of the old men were held at the *awanga* (*malae*) *no te tupele*, a meeting place formerly situated in Loto village to the east of the church and to the right of the present road, a site now occupied by houses. The old men might gather at their meeting place each day or several times a week, depending on the business to be transacted and the amount of food to be divided. The number of old men varied from year to year, ranging from 10 to 30. The lowest number on record is six.

521 646 888 There was no special time for the accession to the group of new *tupele*. When a man was sufficiently old and grey, he formally joined the group; his accession might be marked by a small food division among the *tupele* themselves.

578 It is related that long before the time of Tuiva (nine generations ago), the number of old men was increased to include younger men. The younger people were idle and turned their idleness to mischief in working off personal spites and jealousies against still younger adults (*lopo* and *tane*) by withholding food divisions and then resorting to violence when the young men objected. (See p. 391.) Tuiva initiated reforms providing that no man might become a *tupele* until he was so old as to be unfit for active work. *Tupele* were therefore so feeble physically that their children had often to carry them to the meetings of the group.

561 645 793 613 The oldest man of the *tupele* group functioned as their leader. He became the right-hand man of the high chief (*aliki wolo*) by virtue of his experience and age and was then called the *wolo*. The *wolo* was both the spokesman of the chief and the mouthpiece of the people. In addition, he had special priestly powers, and communicated with the major gods of the island on the religious structure of the lineage of the chief. This power was vested in him irrespective of his own lineage membership.

CHIEFTAINSHIP

525 643 613 Status and rank grades in Pukapukan society were not highly developed. The superior chief of the island was *te aliki wolo o Te Ulu-o-te-watu* (the major chief of Head-of-the-stone, Pukapuka). The subordinate chiefs were

565 643 613 645 [561] 793 *te wui aliki* (the many chiefs). The remainder of the community were without rank and were simply called *te kau* or *te tama* (the people or the children). The chief's executive (*wolo*) was next in rank to the supreme chief, but his position was not hereditary. Informants stated that each of the several subordinate chiefs had an executive (*wolo*) to advise him. These sub-executives were the oldest men (*tupele*) of the several villages and chiefly lineages and shared priestly functions with the minor chiefs whom they served. It is possible, however, that informants were unconsciously magnifying the former status of minor chiefs in order to glorify their own lineages; or else they were generalizing about the status of these chiefs in terms of a particular historical set-up when a minor chief may have assumed some of the powers which properly belonged solely to the supreme chief of the island.

Another ranking official sometimes spoken of was the *yula*, a name which appears only in connection with Tuiva, who acted as a sort of regent or supreme head of the island during an interregnum in the line of the high chief. It is possible, however, that the *yula* was formerly a high-ranking peace officer, deputy to the chief, without priestly functions. Informants are unclear as to his position at times other than during the regency of Tuiva.

565 643 613 177 The chiefly set-up in former times varied from that of today.. Formerly, probably up to the time of white contact, the chiefs of the island were:

VILLAGE	PATERNAL LINEAGE	CHIEFS
Ngake	Mulivai	One aliki (chief), one langatila (sub-chief)
	Matanga	One aliki, one langatila
Loto	i Tua	One aliki wolo (supreme chief), one langatila
	Yangalipule	One langatila
Yato	Yalongo	One aliki, one langatila
	Yamaunga	One langatila
	Yayi	One langatila

This gives a total of one supreme chief, three other chiefs, and seven sub-chiefs. The number of sub-chiefs (*langatila*) may at times have been larger, because a powerful paternal sub-lineage could well have claimed the right to nominate its own minor chiefs. No record survives to enable this question to be settled. With white contact and the control of the island by a resident agent and nominated council, changes have been made in the [644] number and names of the chiefs. The Cook Islands term *mataiapo* has been introduced as a name for the minor chief. The present set-up includes one supreme chief (*aliki wolo*), seven other chiefs (*mataiapo*), and four sub-chiefs (*langatila*):

565 VILLAGE	PATERNAL LINEAGE	CHIEFS
643 Ngake	Muliwutu	Two mataiapo, one langatila
	Matanga	Two mataiapo
613 Loto	I Tua	One aliki wolo, one langatila
	Yangalipule	One mataiapo
Yato	Yalongo	Two mataiapo
	Yamaunga	Two langatila

Informants are confused today over the former status of the high chief and the other chiefs. The following description seems to have applied both to the high chief and to the chiefs of the other lineages; it excludes the subchiefs (*langatila*) who seem to have been more executive officers of the major chiefs than chiefs with status in their own right. Some informants
643 believed that the chiefs were regarded as the fathers of the people and were
602 approached by anyone at any time without ceremony or violation of tapu;
that they were tapu only when they visited the sacred structures (*awanga*)
565 of their lineage gods to seek some favor from the gods.

Majority opinion holds, however, that the chief was sacred from the time he was inducted into office on the sacred structure of his lineage. During youth and boyhood, he, like his siblings, was without tapu and mixed freely with the other young people of the island. The personal conduct of
643 the chief was above criticism. Should anyone dare to reproach him, he cursed the impertinent one with the power of his lineage gods and caused him to fall sick.

644 The house of the chief was divided into two parts. There was no formal dividing wall or screen, but the division was well understood by the chief's family. On one side slept the chief and his wife; on the other side, his children and other household members. His house was not more pretentious than other houses of the village, but was of the ordinary *wakayomoa* house type with coconut leaf wall screens. The chief entered from any
643 side, but the family might enter only from their own end of the house. The chief ate with the rest of the household. His clothes were made by the women of the household. His old malos and sleeping mats were thrown into the sea, because they had become tapu through contact with his body. There were special death observances for the chief (p. 302).

643 In front of the chief's house was a reserved open place where he rested.
Only the name of the resting place of the supreme chief is remembered.
644 It was called Te Ulu-takapau and was situated in front of the present supreme chief's residence in Loto, covering part of the present road and adjacent land. The chief had a reserved bathing beach; that of the supreme chief was in front of Te Ulu-takapau, and was called Te Ava-o-te-waka-
[133] takelenga-aliki (Channel-for-the-chief's-bathing). At this beach, which includes the only piece of deep water on the lagoon frontage of Loto village,

643 no canoes might be beached, nor commoners trespass. The family of the
chief bathed at the next break west of the chief's channel. When the chief
644 had finished his bath, he was carried from the water on the upstretched hands
of his family retainers to Te Ulu-takapau where he rested under the shade
of coconut leaf mats supported by poles. No commoner would intrude on
this place. Close by it were made the special divisions (*laukava*) of chiefly
feasts. The minor chiefs had similar beaches and reserved places close to
[613] their houses in their respective villages. When the chief walked abroad for
exercise, the people moved away to allow him sole and undisputed right to
the road.

645 Besides his family, those most in contact with the chief were his subordinate chiefs, his executive (*wola*), and his attendant (*toa*). This last
613 functionary appears to have been a combination of personal servant, bodyguard, and general executive for the chief. He belonged to the lineage of
the chief. He was referred to as *te talatala no te aliki* (the talker of the
chief) and generally acted as the chief's agent in calling meetings, carrying
messages, arranging food divisions, and like matters.

195 There was no chiefly language in Pukapuka, no word used only by those
of chiefly rank, or by commoners in addressing the chief. Only a special
576 salutation was used for the chief and for his children, who were greeted:
"E vale e . . ." without using the chief's name. By transfer, when one commoner wished to use an extremely polite greeting to another, he used *te vale*,
as "Na yau ko koe, te vale, nei" (You have come, o *vale*). Such a polite
form of greeting is termed *wakahouvale*.

613 Besides these various tapus, all the major chiefs were priests by virtue
793 of rank. This prerogative was shared also by the executives (*wola*) of these
chiefs. In those lineages where there was no chief, only the priest might
643 go to the sacred enclosure of the lineage and consult the gods. In the chiefly
lineages—Tua, Matanga, Muliwutu, and Yalongo—priests, chiefs, and execu-
645 tives could all go on the sacred enclosure without violating its sanctity. The
division of functions was such that the priest consulted the gods on intralineage matters, the chiefs and the executives on matters affecting the island
as a whole or the relation of the lineage to other lineages.

SACRED MAID

643 A final symbol of the status of the chief and of the chiefly lineage was
[171] the pattern of appointing a *moyakitanga* (sacred maid). (Cf. *mehekitanga*,
the Tongan kinship term applied to father's sister.) Either the first-born
613 female child of the chief or another girl of the chief's lineage was chosen
for this purely honorific office. Generally she was supposed to be the
most beautiful girl of the lineage. Chosen at the age of about ten years,

643 she remained a virgin all her life and did not go through the adulthood rite. From the time she was chosen she lived in a special house called *te wale yu*
613 *o te wayakitanga* (the sacred house of the sacred maid). The induction of a wayakitanga was described as follows:
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> The sacred maid wore a pandanus kilt dyed red with the juice of *wele* berries, a headband of *wele* bark, also dyed red, and pearl-shell ornaments. She was placed in a horizontal position with her back to the ground, lifted high in the air on the palms of men of her lineage, and carried to the sacred enclosure of the principal god of the lineage. All the other people of the lineage, and the general populace, if it wished, followed with uplifted palms and hands. As the procession reached the enclosure they chanted the song "Kai yoki yokio", which was also chanted at the burial of a chief. At the word "Ui", the girl was placed before the worshiping stone (*unu*) of the enclosure. The executive then dedicated her to the god with a prayer (*tahua te wai*). No informant could remember the exact form of this prayer, but it contained reference to the increased prosperity of the island during the life of the sacred maid. Pau thought the following extract from an ancient prayer of obscure meaning was recited at this time:

Kia* wai mali wanin	Let the clusters of nuts be full (?)
Kia wowolo te wawa	Let the talo tubers grow big
Kia tautangatanga	(Addressing the wayakitanga) Beckon to the god (that he may answer this request)
Kia vatele te ika	Let the fish be numerous
Kia yi ki te tai	Let (feces) flow to the sea (in quantities from the abundance of food eaten)
Ko elo te wenua	Until the land stinks
Kave ye te tangata	Continue the feasts for the people

> After this prayer, the wayakitanga was considered dedicated to the god. She was then carried about the island on the uplifted palms of her relatives and shown to the people. Everywhere she was greeted with the remark: "Koe taupule wua kae ki mua" (You are making a circuit of the island—to bring us prosperity). The ceremonial tour finished, she was taken back to her house and her guarded life began.

613 The wayakitanga was guarded by old female relatives (*lewesi* or *taute*). She was kept inside her house for two or three months at a stretch, her
262 skin carefully oiled so that it became exceedingly fair. She was fed the choicest foods: parts of the breast and green fat of the turtle; the *iotua* part
[302] of the flesh of albacore and other large fish which stretches from the dorsal fin to the tail and contains fat white flesh; all kinds of fat fish such as
643 *malau*; and the breast meat of birds. All the skinny portions of her food supplies, lean fish, wings and legs of birds, were eaten by her duennas.

613 The sacred maid of the chiefly lineage of Loto lived close to the place Matala, the other sacred maids living similarly close to their cemeteries.
643 From the residence of the wayakitanga to the lagoon beach was a specially cleared path called *yiongo ele* (not to be confused with *yiongo mauli*, cleared paths built as symbols of deified ancestors). This path was tapu to commoners save at times once every two or three months when the maid walked
[195] on it to show herself (*wakayuwa*) to the populace. Then the commoners

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[*] *Kia*, an archaic particle used in prefacing requests to the god.

613 might walk behind her provided they showed her the respect due her status by walking with uplifted palms.

643 The life of the *mayakitanga* seems to have been monotonous. No man ventured near her sacred house, let alone dared to sleep with her, even if he could. Any trespass against her house or her person was punished by the gods of her lineage with sickness and death. When she came from her house to bathe, all the men retired either to their houses or to the bush, and she bathed in privacy with her guardians. Only when she went abroad to show herself or to go to the sacred enclosure was it permissible for the populace to be about her. A *mayakitanga* had no choice but to be a sacred maid, once she was dedicated, until she died. If she outlived the chief who made her *mayakitanga*, she was still treated with every respect. The new chief might appoint a new *mayakitanga* from his own generation, and there were then two sacred maids living in the special house at the same time. The older sacred maid might, with the passage of years, informally retire from her position. She never married, though she might participate more in the everyday life of the community.

Informants have no knowledge today of special religious duties of the *mayakitanga*. Her special function was to act as a prestige symbol for the chief and his lineage. She was considered a great "pet" of the lineage, *e wakamaroma te mayakitanga* (beloved was the sacred maid). It was a great

613 honor for any girl to be chosen as *mayakitanga*. Though no ordinary

643 woman might set foot in a voyaging canoe, the presence of a sacred maid in such a canoe was greatly desired:

> 502 When a big deep-sea voyage was made by members of a lineage, the sacred maid accompanied the voyagers as an honored passenger. The priests of the lineage consulted the gods of the lineage beforehand and received permission from them for the sacred maid to join the expedition. The sacred maid apparently possessed no special technique by which to calm storms or avert other dangers. Her beneficent presence in the canoe evoked extra efforts from the god of the lineage to protect his subjects. Having given permission for her to go in the canoe, the god of the lineage was honor bound to protect her from danger, and thus also the crews of the canoes. She was the symbol of the power and dignity of the lineage, and the protection accorded her also embraced the men of her lineage. As a proof of this, informants said that the voyages undertaken by Maliwutu lineage without the protection of their sacred maid all ended in disaster, whereas the voyages of Matanga lineage, invariably made with the sacred maid, were always successful.

SUCCESSION TO CHIEFLY TITLE

613 Title to chiefly rank descended in known paternal lineages, subject to veto by the people of the lineage:

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> 597 The line of descent was from father to son. Where there was no direct male issue, the title lay dormant until male issue appeared or else it passed to a brother of the late chief, or to an adopted son (*ao kokoti*) of the late chief, who was his brother's or sister's son. Adoption always provided an heir, if there was no male issue. A woman

613 never succeeded to the title, though descent might be through a woman where her male child was adopted by the chief. Before he died, the chief nominated his successor by 643 the act of placing a pearl-shell ornament (*yone*) around the man's neck. After the chief's death the matter was discussed by the people of the paternal lineage. If they 597 disapproved the chief's choice, on the ground of incompetence, there was much discussion and possible intrigue, until they agreed on another suitable candidate. In this way, direct male issue might be passed over in favor of someone from a junior line of the lineage, who would be adopted into the main line of descent before induction into office. The time elapsing between the death of the chief and the induction of a successor varied according to the amount of discussion involved, and the number of conflicting lines to be harmonized. The final choice of the lineage was indicated by placing the ornament 776 (*yone*) round the neck of the successor and the *[illegible]* ornament (a string of pearl-shell fishhook shanks) round his waist. In Muliwutu lineage, the chosen person had to establish his right to the title by passing a test. He went to the sacred enclosure of the 782 lineage and struck the stone of the god; if the god was favorably inclined to this candidate, he sent a rainbow across the sky. No candidate who was unable thus to produce a rainbow was ever inducted as chief.

613 Both pattern and variation governing succession to title are best illustrated by a consideration of the types of succession recorded in the genealogy of 643 the supreme chief. In the accompanying genealogy (table 4) the chiefly title-holders are numbered consecutively from Mataliki to the present day. 173 The succession passed from father to son from Mataliki, the traditional founder of Pukapuka, to the sixth chief, Kamola, in the sixth generation. 773 From a genealogy of Muliwutu lineage of Ngake, it would seem that Kamola succeeded to the title of chief of Muliwutu, and in his person the two chiefs of Tua and Muliwutu were combined. Kamola had a son, unnamed in the Tua genealogy but named Tamaliki in the Muliwutu genealogy, who apparently succeeded to the title of chief of Muliwutu. In Tua lineage matters were more complex.

> Kamola's son was married to a woman named Yakauyila, who was very kind to Kamola in sickness and in his old age. Kamola's son was apparently less filial in this respect, and Kamola thought to reward his daughter-in-law for her care and attention by passing the title to anyone she wished to name. Yakauyila herself could not hold the title, but Kamola was of the opinion that the honor of naming the next chief was the greatest tribute he could pay to her friendship for him.
>
> The people of the lineage objected to the possibility of the title's passing out of their own lineage under this arrangement, so they insisted that Kamola should propose a test; if Yakauyila could find a champion (*toa*) to pass this test, then she might name the successor to the title. Kamola agreed to this arrangement. He gathered a great number of coconut leaves, stripping several trees completely. With one leaflet tied round his waist, he lay on the ground, face downward, and was covered with all the coconut leaves. The feat was to pick up at one time all the leaves covering Kamola without injuring the chief. Yakauyila chose Kui, a man of special powers, to act as her champion. Kui took his spear and advanced toward the prone figure of the chief, performing the *lupe* ritual (p. 322). He struck at Kamola once but failed to pick up the leaves; struck a second time but failed; the third time he thrust his spear clean and with a superhuman wrench picked up all the coconut leaves covering Kamola. He threw them all in the air with the exception of the leaf round Kamola's waist, which he left untouched. As the leaves fell through the air, Kui struck them in rapid succession, shattering each and every leaf before it touched the ground.

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(before, first), *lolo* (middle), *muli* (behind, after) it is possible sufficiently to indicate seniority differences according to the Pukapukan pattern. The word *tuaina* is occasionally applied by an older brother or sister to a younger sibling of the same or opposite sex. There are no special terms other than the descriptive words just given indicating seniority in cross sex reference; thus a younger brother calls an older sister *tua wawine mua*. Today, with the breakdown of the native system, Rarotongan kinship terms indicating seniority are commonly used. Sex differences on the zero stratum are indicated by the use of the terms *taina* between siblings of the same sex, *tua tane* or *tua wawine* between siblings of the opposite sex. Some informants tend to apply the term *kainga* (to be distinguished from the term *kainga wawine*, which indicates cousins of opposite sex) to siblings of opposite sex. In this sense the term is constantly used in folk stories, but one at least of our best informants did not agree with this use of the term, and others changed their opinion several times during the course of temporally separate discussions about the matter. Sex differences for other terms are indicated by the words *tane* and *wawine* for male and female respectively.

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Descriptive terms are used to indicate remote relationships on each stratum if exactness of reference is required. Affinal relatives generally, at the zero and minus one stratum, are called *tao tangata* and *kawge tangata* respectively. These words refer to close relatives by marriage connection, not by blood. A child of an unmarried mother is a *tama to kaka*; spouse's child by another man or woman is *tama tau tokelau*. Conversely, blood mother or father's mate is *matua tau tokelau*. Blood parents are *matua wawe* as opposed to adoptive parents, *matua lere*.

The eldest child, male or female, in a family is called the *uluaki*. *Ngalote* is applied to the second child in a family of three or four children; to the second and third children in a family of five children; to the second, third, and fourth children in a family of six children. *Taina* is used for the next to last child in a family of more than three children. *W'akamuli* is the last child in any family. *Aukimua* is the heir apparent in the chiefly family, the boy either chosen by the father or generally reckoned to be the child likely to succeed to the title. *Angawale* (grandchild) is a term with more affectionate feeling tone than the colorless word *makopuna*.

In spite of the strong matriliny in Pukapukan society, there is no special term for mother's brother, nor any indication of special obligations or privileges between mother's brother and sister's child, corresponding to the *tamana* or *vasu* relationships of Samoa and Fiji. The word *tamatu*, however, has meaning for the Pukapukans:

It is now an archaic word, found only in old chants, and not in current usage. A man's adopted child (*tama kokoti*) of either sex who is the blood child of a female blood relative of his own generation—that is, of his older or younger blood sister, or of his

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relationships, the system is essentially simple and presents few complexities. Dual lineage organization has had no effect observable today upon the kinship system or terminology. Terms follow the usual Polynesian system of stratification. It may be stressed again that the distinction between blood and kin relatives called by the same term is always and easily kept in mind by the native, and there is never any confusion as to the proper emotional attitude or behavior due to the various relatives. The intension of kinship feelings, that is in terms of formal pattern, varies directly with the extension of the application of the kinship terms. Terms are not used in direct address, but as terms of description, save in mourning ceremonies, when a mourner addresses the corpse by the appropriate kinship term; at all other times, personal names are used in address, including that of child to parents. [57]

Table 7. Kinship Terms

STRATUM	COLLATERAL	LINEAL	AFFINAL
2	Tupuna tane (great uncle). Tupuna wawine (great aunt)	Tupuna (grandparent)	Tupuna (spouse's grandparent)
1	Matua tane (uncle) Matua wawine (aunt)	Matua tane (father). Matua wawine (mother)	Matua ungavai tane (father-in-law) Matua ungavai wawine (mother-in-law)
0	Cousins of same sex as speaker, taina; cousins of opposite sex to speaker, kainga wahine or wahi aine	Siblings of same sex as speaker, taina; siblings of opposite sex to speaker, tua tane (w.s.); tua wawine (m.s.), kainga (m. or w.s.)	Taokete tane (brother-in-law), taokete wawine (sister-in-law). Affinal relatives, generally, tao kaapiti
−1	Tamatane (nephew). tamawawine (niece)	Tamatane (son). tamawawine (daughter)	Unonga tane (son-in-law), unonga wawine (daughter-in-law). Affinal relatives of this level generally, konga tangata, as te konga tane, brothers of son- and daughter-in-law.
−2	Makupuna tane (great nephew) Makupuna wawine (great niece)	Makupuna tane (grandson). makupuna wawine (granddaughter)	Descriptive terms, as, wawine as taku makupuna tane, wife of my male grandchild.

One important characteristic of the Pukapukan system is the absence of special terms to express seniority among lineal descendants of the same stratum. This is done only by the addition of descriptive terms. A younger brother calls an older brother *taina mua*. By the use of the terms tane 601

[611 613] maternal lineage of the maternal grandmother. I have on record no actual instances of this arrangement, for which informants could give no native name.

597 The status of an adopted child in a family is the same as that of a blood child. The precise kinship terms applied to the parent-child relationship are *tama hakoti* or *tama wangai*, and *matua hakoti* or *lava* or *matua wangai*. These are rarely used save for the sake of pedantic exactness in the discussion of genealogies. [842] In fact, the *tama hakoti* is considered to be the child of the adopting parents in everything save the accident of conception and parturition, though here the fiction is that the adopting parents are sociologically the parents even during gestation. The adopting parents are *matua*, and the child is *tama*, in the full sociological sense of the kinship terms. The child loses all status, kinship and sociological, in relation to his blood family. All kinship ties established by birth are broken, and new kinship obligations are formulated according to the relationships of his adopting parents. As the child grows up, he may be permitted to visit his blood parents, whom of course, he soon learns to know; he may help with their work, or care for them in sickness. But it is to the adopting parents that the child owes primary obligations, and on whom he is supposed to lavish his care and affection.

597 857 576 573 Because of the complete sociological break brought about by adoption it is regarded as the blackest treachery for the blood parents, through motives of natural affection or economic advantage, to encourage the child to visit them. Some parents are known to do this by petting the child when he visits them, by saving choice tidbits for him, and by treating him with a more lavish display of affection than he receives from his adoptive parents. Such actions are resented by the adoptive parents who expect the blood parents to do nothing to revive blood ties. If a child goes to them they should send him away, resorting to violence if necessary, to show the child that he is unwanted. Similarly, adoptive parents are fully justified in severely whipping an adopted child who persists in visiting his blood parents. No punishment less than manslaughter is considered too drastic for the child who deserts his adoptive parents. If, in spite of punishment, ties of blood and affection are so strong that the child ultimately deserts his adoptive parents, as in fact sometimes happens, then there is nothing for the adoptive parents to do but to moralize on the iniquity of human nature or try adopting another child.

KINSHIP

601 Pukapukan kinship terms are listed in table 7. Beyond the fact that there is much confusion in the minds of informants today as to the exact extension of certain terms, particularly of those characterizing avoidance

577 giving a material gift in exchange for an adopted child is more common than interchange of children for the reason that it is the childless couples
151 which are more likely to adopt in the first place.

Table 6. Relationship of Adopting Parent to Child

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Adopting Parent	Child	
Paternal	Koroti	Wangai
1. Father's brother	4	–
2. Father's sister's husband	11	6
3. Blood father (not married to mother)	2	–
4. Paternal relative, detail lacking	1	1
Father's paternal relative:		
5. Father's father	3	–
6. Father's father's sister's son	1	–
7. Father's father's brother's son	1	–
8. Father's father's brother's daughter's husband	1	–
9. Father's father's sister's husband	1	–
Father's maternal relative:		
10. Father's mother's sister's son	1	–
11. Father's mother's brother's son	1	1
12. Father's mother's sister's husband	1	–
13. Father's mother's husband	2	1
14. Father's mother's brother	3	–
15. Father's mother's paternal relatives, detail lacking	2	–
Father's adopted paternal relatives:		
16. Father's adopted father	1	–
17. Father's adopted father's daughter's husband	1	–
18. Father's father's adopted son	1	–
Maternal		
19. Mother's brother	8	1
20. Mother's sister's husband	4	–
21. Mother's brother's friend	1	–
22. Maternal, detail lacking	4	–
Mother's paternal relatives:		
23. Mother's paternal relatives, detail lacking	11	–
24. Mother's father's mother's husband	1	–
25. Mother's father	6	1
26. Mother's father's sister's husband	1	–
Mother's maternal relatives:		
27. Mother's mother's brother	1	2
28. Mother's mother's husband	1	–
Mother's adopted maternal relatives:		
29. Mother's adopted father's son	1	–
30. Mother's adopted mother's adopted son	–	1
Totals	77	14

571 The census records three examples of adoption of *tama koroti*, the adopt-
615 ing parent then giving the child (here *te tama*) to another paternal lineage not the parents' own.

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the feeding relationship into a permanent *kokoti* relationship. This is done by mutual arrangement with the blood parents and is accompanied by a renaming of the child by the adopting parents.

The method of adoption before birth is a favored one. The adopting parents desire to have complete control of the adopted child, not only complete social control, but complete control also of the child's affections, if they are childless. Further, if the adopting parents are two generations removed from the child, they need assurance that he will not desert them in their old age. A divided loyalty in the child would be fatal to the complete success of the security desired. Nevertheless it is recognized that adoption at a later age gives the adopting parents a chance to test out the capabilities of the adopted child.

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An additional occasion for adoption may occur when a man marries a woman who already has a child by another man. If the husband expresses the desire to adopt and it is agreed on, the woman's child is adopted into the lineage of the husband and becomes his *tama kokoti*. Where the woman has conceived either by the husband or another man before marriage, the husband is considered the sociological father to the child born after the marriage, and the problem of adoption does not arise.

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A tabulation of the relationship of the adopting parent to *kokoti* and *anaani* children is possible from the census material (table 6). Clearly, the range of possible relationships is well nigh infinite. Note, however, the outstanding and comparative importance of father's sister, mother's brother, and mother's father as the adopting parents. Almost equal in number are adoptions by maternal and by paternal relatives.

Adoption may be complicated by the exchange of adopted children and by the giving of adopted children as presents to another lineage. One interchange of children of close friends in adoption is recorded:

Two men, Legumaa and Tiela, are cross cousins. Legumaa adopted as *tama kokoti* the son of Tiela. Tiela in turn decided to adopt from Legumaa. He contracted for Legumaa's next infant, which he thought would be a boy, to be handed to him as soon as it was born. A fair exchange of this nature is of children of the same sex, so that the status of the two families as regards continuity of descent is the same before and after the exchange. To Tiela's sorrow, Legumaa's child was a girl, but he stuck to his bargain and took the child.

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The exchange is termed *yaowi* (gift), *yaowi mai* (to receive in exchange), or *yaowi atu* (to give in exchange). The interchange emphasizes a sentimental tie between two families, and ensures that neither side shall suffer by the gift relationship. Where the exchange is not carried out on one side, valuable gifts—fishhooks, a piece of land, a group of nut trees, or a section of privately owned talo beds—help to reestablish the status quo as regards the two families. Such a return gift is also called *yaowi*. The practice of

597 591 while died and it is presumed that the child will continue indefinitely to live with his own parents while being considered a member of the adopting father's lineage. In a third case, the reason is the illness of both adopting parents. In another, the adopting father is a very old man, unable to care for the child. He had previously also adopted the child's father, who lived with him as a boy. A further case did not involve a change of residence on the part of the adopted child because the adopting father is the husband of the child's maternal grandmother, with whom the child's unmarried mother lives. The reason given in two other cases is the death of the adopting parent or his wife. In the remaining five cases, involving eleven *tama kokoti*, no explanation could be offered by informants, though it is likely that the personal preferences of the blood and adopting parents were deciding factors.

Generally the *tama kokoti* is adopted before birth:

597 843 613 When a couple decides to adopt, they go to the selected parents at the time the mother is about three months pregnant. They say: "We wish to adopt this child as a *tama kokoti*;" and then specify whether the sex of the child will make any difference. The blood parents discuss the matter with the paternal and maternal grandparents and with their bilateral kinship groups, to see if there is any objection to breaking a descent line, or whether any other friend or relative has a prior claim on the child. If agreement is reached, the adopting parents are informed, and from this time on they are required to feed the pregnant mother with the best of foods and to make special provision for her family whenever there is a food division.

597 844 [592] 597 The child's birth takes place in the house of the blood father, unless the house of the adopting father is close by, in which event delivery may take place in that house. Both adopting parents are present at the delivery as a matter of course, because of the fiction that it is really their child that is being born. All the relatives of the adopting parents make a point of being present for the same reason. It is the adopting group that renders all the necessary assistance to the parturient woman. The blood father and relatives may also be present, but only as onlookers who take no part in the confinement proceedings. After the child's birth, the adopting parents continue to be responsible for the mother and for the child. They provide the birth feast and the names for the new child.

[43] [591] Thereafter the mother nurses the child, who remains with her exclusively until time for weaning. Food gifts to the mother continue throughout the feeding period. At weaning, the adopting parents take formal possession of their child. A small feast marks the handing over; the adopting parents make gifts of valuables, pearl-shell hooks, mats, etc., to the blood group. This completes the adoption, and henceforth the child lives with the adopting parents. The blood parents give up all control over the child, and the child in turn assumes all the duties and responsibilities of its position as *tama kokoti* to the adopting parents.

597 591 862 As distinguished from a *tama kokoti*, the feeding child (*tama wangai*) goes without ceremony to live with the adopting parents, who feed him. He helps his feeding parents, and brings to their household the food shares he receives from the village divisions. The relationship begins when the child is sent to relatives to be weaned:

Through a mixture of personal and economic motives, relatives may decide to keep a feeding child with them. The matter is discussed with the blood parents and decided upon, usually an easy matter, as no change of lineage membership is involved. The child remains a member of his home village. If he is taken by relatives to another village, he brings to this household foods in which the adopting village is deficient. Thus the adopting parents participate in a supply of food that would otherwise be denied them. If the adopting parents come to favor the feeding child, they make arrangements to turn

591 592 612 derives, first, from the importance of the bilateral kin group, which should not be underestimated whether the society is patrilocal or matrilocal; second, from the fact that the people who cause a formal social organization to function are people of flesh and blood, heirs to any number of personal idiosyncrasies, preferences, hates, loves and jealousies, the interrelations of which twist formal rules to serve the logic of life. If a person wishes to live in a particular household—for whatever reason—he does so, whatever his kinship with the family head, and whatever the society rule. Behavior may be labeled as deviation only after the rule has been established by analysis of census material. It is important to remember that marriage invariably joins together two kinship groups in an alliance which is usually cooperative and friendly. Once the fact of this alliance is socially recognized, the way is open for the operation of the largest measure of personal choice in household residence, if personal factors render it impossible to live in accordance with the pattern of the society.

ADOPTION

597 591 615 The two types of adoption in Pukapuka are complete adoption (*hohoi*, to cut) and partial or feeding adoption (*wangai*, to feed). The adopting parents are *matua hohoi*, the child *tama hohoi*. Complete adoption usually involves change of residence and change of patrilineal descent. The feeding parents are known as *matua wangai*, the child as *tama wangai*. Feeding adoption usually involves change of residence, but never change of descent line. The Pukapukan does not consider that a child receiving village food shares under the agency of a man not his father is adopted by that man. (See pp. 219-220.)

597 615 261 The reasons for adoption are both personal and economic. The personal motive is the desire of a childless man to ensure the continuation of his patrilineal descent line. Economic incentives include the desire of a childless couple for the food shares that an adopted child brings into the household, for taro beds and coconut trees from the child's blood group (in adoption after infancy, a matter of arrangement) or for someone to care for them in their old age. Frequency of adoption and residence variants are indicated by an analysis of material collected in the household census:

597 162 591 Of the total of 349 persons of all ages included in the census, 80 (22.9 percent) have at some time been adopted by the *hohoi* adoption. Of 209 persons of a generation below that of mother and father in the households, 43 (20.6 percent) are *tama hohoi*. Of the remaining 166 persons, 13 (7.8 percent) are *tama wangai* living with their feeding parents. The percentage of *tama wangai* in the total of 209 persons of the generation below mother and father is 6.2. Of the 43 who are completely adopted (*tama hohoi*) in this generation level, 18 have continued in residence with their blood parents without going to live with the adopting parents.

The reason for the non-change of residence of two of the *tama hohoi* is their under age: they are not yet weaned. The adopting mother of one of these infants has nurse-

I:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

occurred, both of feeding children (*tama wangai*) and of children "cut off" (*tama kokoti*), either with loss or with gain in membership to the household: 592 597

In these 30 households there is a total of 48 *tama kokoti* and 10 *tama wangai* adopted into, or away from a household. In 5 households one child was adopted while another was lost by adoption, the balance being the same. Nine households gained one member each, 4 households gained 2 each, one household gained 3, and another gained 4 members. In 6 households one member was lost by adoption, in 5 households 2 were lost, and in 1 household 3 were lost. The average membership in 30 households after the adoptions have taken place is 6.1 persons. Had adoptions not taken place, the average membership would have been 5.9 persons. It is clear that adoptions work, however slightly, toward bringing the household composition nearer to the average membership for the total number of households. 162

Informants gave patrilocal residence as the rule for marriage. Census data established the pattern, with variations due to personal choices and conveniences. In order to learn whether patrilocal residence is also the rule for household groupings of kin outside the biological family, special inquiries were made in conjunction with the census. Patrilocal residence is defined as the residence in a household of persons whose membership is based on a relationship to the male head of the household, provided the household head is himself living patrilocally. Where a husband resides matrilocally, any persons living in his and his wife's household, whose membership in that household is based only on relationship to the husband and who is not also related to his wife, is also taken to be living matrilocally. Adopted persons are considered as living in accord with patrilocal rule, save that where the father lives matrilocally the adopted children also live matrilocally, because they are equally related to the mother of the household. Of a total of 348 people coming under the census, 287 (82.4 percent) are living patrilocally. For the material under discussion, the households which include persons residing in accordance with patrilocal rule do not greatly outnumber those which include persons residing matrilocally. But when residence is evaluated in terms of the number of individuals, the rule as to the prevailing tendency toward patrilocal residence is made clear. Accurately to represent the situation, table 5 should indicate individuals and not cases. With this caution, however, it will not be misinterpreted. 591

591 592 Analysis of the foregoing data shows the importance of distinguishing clearly between matrilocal or patrilocal marital residence on the one hand, and matrilocal or patrilocal kin residence on the other hand. Too often these two types of residence are confused. Marital and kin residence may or may not correspond. What appears to happen in general is that, in a matrilineal society, other things being equal, marital and kin residence tend to follow the same pattern, and vice versa in a patrilineal society. However, a sufficient number of deviations occur to give the tendency in marital residence a different degree of incidence from the tendency in kin residence. This [612]

1:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

592 ments. It happens that their father-in-law has, until recently, been the acting Catholic missionary and may thus have wished to hold them with him in the new faith. Another daughter and daughter's husband sleep in the same household, but cook and eat with the husband's mother, that is, patrilocally, on another lot.

The widow in household 26 who lives in her deceased husband's house is considered the owner of the house which she has inherited from her husband.

Household 43 is anomalous in being composed of a man and his divorced wife's sister, her husband, and children. This woman and her family resided with her sister and her husband before their divorce, and have since continued to reside there through personal choice. The lot of the latter borders on that of the parents of the woman's husband, and the whole household shares a cook house with household 44 next door, in which the mother's brothers are deceased.

The group composing household 49 sleeps in one large house and is considered a complete household, although the cook house is shared with household 50, where there is no senior wife and where the junior wife has only recently come to live.

The member (household 51) living alone represents a further anomaly. This woman is a spinster of about 38, who has little prospect for marriage. Her parents are deceased, and she lives in a house built for her in Yato by her relatives. She sleeps in this house, but eats in neighboring houses wherever her services are for the moment required. Part of the time she lives with relatives in Ngake.

General observation of the households indicated that their composition remained relatively stable. Such breaks in the social fabric as death, marriage, divorce, birth, adoption, and weaning cause a slight rearrangement of numbers, rarely of fundamental composition. Personal choice may also dictate a new arrangement, especially changes due to conflict with the majority
591 members of the group. There is nothing in Pukapuka resembling the Samoan freedom whereby children, as soon as they walk, change their residence and feeding houses among the larger kindred grouping according to personal whim. In Pukapuka, the residence of children away from the household of the blood parents is accounted for by definite sociological mechanisms, such as adoption or weaning. The only exception noted is a little girl who eats, works, and lives during the day with her blood parents, but sleeps, apparently by preference, with a friend of her own age in the house next to that of her blood parents.

592 The 54 households included in the census have a total membership of
162 348 people. This gives an average membership of 6.44 persons per household. Omitting the anomalous household in which there is only one member, the average for 53 households, with a total membership of 347, is 6.5 persons per household. The variation in numerical composition of the households is shown below:

Persons per household	1	2	3	4	5	6	7	8	9	10	11	12	13	18
Number of households	1	2	9	5	5	7	7	6	4	2	3	1	1	1

592 Households with a numerical membership of 5 to 8 persons account for
577 72.3 percent of the total number of households.

In an attempt to work out the effect of adoptions on the numerical com-
162 position of the household, 32 households were studied in which adoption

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218 (C)

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1:Beaglehole and Beaglehole E-5 (1934-5) 1938 Pukapukans

Table 5. Household Composition (t)

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248 (a)

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	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Informant	A	B	C	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1	+	+	+		+										
2	+	+	+	+				+		+					
3	+	+	+	+					+						
4	+	+		+											
5	+	+	+	+					+						
6	+	+	+												
7	+	+		+											
8	+		+		+			+	+	+					
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578 837 a weakling, he asked a powerful friend to wrestle for him. If one woman slandered another, the injured party followed the other to the bush where she tried to beat her with a stick, or else fought her with her hands, trying to tear out her hair or otherwise pain her. Sometimes the injured woman tried to seduce the husband of the slanderer. If she succeeded, she publicly humiliated the slanderer by announcing that she had seduced the man, telling also the reason why.

177 671 655 625 Today, the Cook Islands Act has superseded old-time law. The taro beds and the reserves, however, are still administered by the guard, which levies fines on those caught stealing. One day during our stay, the women's guard from Loto came en masse to Yato and accused a Yato woman of stealing taro from Ula. The Yato woman confessed, and was immediately fined six uto nuts or three pennies. She handed over the nuts, and all were satisfied. In their report to the village each night, the guards mention the names of persons who have trespassed on reserve lands.

THE HOUSEHOLD

592 The native definition of a household is that group of people which use the same cook house. Three households (households 8, 44, 49) described by informants constitute variations on this pattern. (See table 5 and p. 249.)

592 593 The number of sleep houses all grouped together on the same lot and occupied by the same household unit depends on the size of the household. Where there are several sleep houses the parent or parents and unmarried children, blood or adopted, sleep in one house; a further grouping occurs in terms of relationship, age grades, and personal choice. A married son or daughter generally sleeps with his family in a separate house.

COMPOSITION

592 The relationships of the persons making up individual households studied is shown in table 5. The 54 households of Ngake and Yato give 38 distinct groupings of kin:

Ten households are composed of mother, father, and children. Seven households are composed of mother, father, and adopted children. Two households are composed of mother and children, mother in household 26 being a widow, and in household 42, a divorcée.

The biological family of mother, father, and children is the basis of the composition of 27 of the 54 households. In 15 households, mother, father, and adopted children is the basic unit. In only six households does the combination of father, mother, children, and adopted children occur.

Outside these groups, the most common household member is the son's wife. One son's wife and one daughter's husband (household 8) have, with their children, remained in residence with their father-in-law though their mates are deceased. It is further noteworthy that these two, the (deceased) son's wife and the (deceased) daughter's husband, are brother and sister. No explanation of their residence was given by inforthe owner of the stolen property might

627 go to the house of the man whom he suspected and, in turn, take articles to
671 the value of those missing, thus provoking a quarrel. Disputes arising from
578 such actions or from unjust accusations were settled by wrestling, where a fall in the ring decided the matter, or else by a stand-up fight with sticks; to administer a good beating was considered adequate compensation for the loss of goods or for the loss of a wife. If the thief was discovered, the stolen goods were returned in full by him or his family, or else goods of the same value were paid, or a gift might be made to the injured party, large enough to be considered adequate reparation.

626 If the thief was not discovered, his children, own or classificatory, born before or after the theft, would certainly die early deaths. The remarks of
753 neighbors might then lead the thief to confess his earlier fault. In the confessional held round a death bed, thieving is one of the matters which relatives close to the dying person are particularly requested to confess.

674 Thieving was rare in Pukapuka, owing to ease of detection, but the stories of Nuanua and Kieilu show the type of behavior it evoked when it occurred:

627

Nuanua was fishing on the back beach where he picked up a piece of driftwood bamboo to which he found several huge pearl shells attached. He took the bamboo to the lagoon and securely anchored it there to allow the shells to grow bigger. One night all the shells were stolen from the bamboo. Nuanua inquired everywhere, but with no results. He searched month after month, and many times interrogated Tipui, a man whom he suspected of the theft. All was fruitless, and Nuanua died without having found his shells. After this, the children of Tipui, and even of some of his relatives, began to die sudden, mysterious deaths. One day, Tipui himself became very sick. Everyone thought he would confess his theft. But he still feared surviving relatives of Nuanua. On his death bed, however, when he knew he could not recover from his illness, Tipui confessed his sin. It was too late to save his family which died out very soon thereafter.

Kieilu was a noted warrior (toa) in the time of the chief Maina. One day he went bonito fishing. On his return, he put his line and six pearl-shell hooks in fresh water to wash out the salt. He put them in a little pool (lolo) which then existed behind the present London Missionary Society church. Then he went to the back beach. Coming home again, he found that his rod and hooks had all disappeared. He hunted everywhere for them without result. Being a great warrior, he pulled down many of the houses close by, such was the frenzy of his search. He threatened to kill the people in these houses if they did not tell who had stolen the precious hooks. Every search proved fruitless, and to this day, these hooks have not been found. But the people who lived about this pool were called manava ula (red bellies). If one wishes to insult a person living in this place even today, one calls him manava ula, a terrible reminder of an earlier shame. [579]

The story of Waina, combining motifs of theft and murder, illustrates permissible individual retribution (1).

575 Slander (vale mave, "throwing words") was apparently a common cause of dispute in former days, as, indeed, it is today. If one man slandered another, the injured party challenged the slanderer to a wrestling contest and tried to throw him. If he succeeded, he explained to the people that he tried for an extra bad fall because of the slander. If the injured party was

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the chief's executive (*wolo*), who had the power to say whether a law should or should 643
not apply to the island (p. 387). Decisions were reported (*hore te tawanga*) to the 645
several villages in a meeting assembled by a special messenger, called simply *te leo o te aliki* or *te leo o te tupele* (the voice of the chiefs or of the old men). The high
chief did not attend the meetings of the old men but sent his representative (*te takitaki na te aliki*), who was commissioned to report the chief's opinions to the old men. It is 646
probable that special meetings of all the people of the island were held on occasion to 634
discuss such a matter as the redivision of reserve land, or the realignment of reserve
boundaries. A meeting of this type seems to have been in progress at the outbreak of the civil war (p. 380). 623

The control of village affairs was largely in the hands of the village men. The chief of each village acted as priest in village functions. In theory he devoted his time to the welfare of his people and the control of village works initiated by a decision of the people. The sub-chiefs (*langatila*) were the executive officers, directing village works. Neither chief nor sub-chief received tribute from village or lineage members. Each was fed by his own family group. [622 613] In island affairs, the chiefs and sub-chiefs were advisory and executive officers, but the real balance of power, in theory at any rate, seems to have been with the old men, who ordered and directed inter-village and island affairs. When the high chief or his executive, who perhaps corresponded to the modern king's prime minister, was an outstanding personality, he might assume for himself many of the powers that ordinarily lay with the old men; these powers would revert to the old men on the chief's death. The governing of the island, therefore, really lay with the group of old men who because of their age and presumed experience were considered better able to order affairs than a chief or his executive.

SANCTIONS

Sanctions invoked to deal with most antisocial conduct were not secular, 681
but depended on punishment, usually sickness, sent to the wrongdoer by the 776
gods. Lying was condemned but not punished secularly. Adultery was [577]
punished both by the gods and by the wronged person (p. 329).

Thieving from the reserves was punished by the gods. In the reign of
the chief Tuliyanga, however, when there was a great food shortage, punishment for stealing was reinforced by group action; the law of *pale pae* (death law) was put into operation and implemented by the guards of the reserves (p. 387). Willful homicide seems also to have been punished by group action, perhaps if it was thought that the gods would be too long in acting. The appropriate punishment was whipping to death. The maternal sub-lineage of the victim was either made the instrument of this punishment or assumed collective responsibility for the crime, though should the homicide shock the community by its barbarity, all the populace might join in the beating (1). 671 683 672

If one individual should steal from another, the victim was allowed to 627
be his own detective and judge and would proceed to reinforce the punish- 671
ment of the gods. The injured person or a friend made inquiries and threatened to kill the thief should he be discovered. The thief might pose as a friend and go to look for the missing articles, simulating intense search, but always return with empty hands. The owner of the stolen property might

made a right choice. Apparently no chief was ever deposed; hence the 613
reigns of the chiefs of all the lineages must have been, in general, equally
prosperous. In accounts of traditional history it is usual to find the chief 645
displaying supernormal powers, bestowed by the god of his lineage.

In former times, as today, great rivalry was felt between the various
lineages of the island, especially between those lineages headed by chiefs. 613
Up to the time of the great seismic wave, no chief was superior to the rest.
There was, rather, a shifting balance of power between the four chiefly 642
lineages, temporary superiority going to that lineage which through the intrigue, personality, and strength of its chief, combined with numerical strength of its members, managed to gain predominance for the time. The chief of such a lineage would then claim to be the supreme chief of the island. His claim might be disputed, but as long as he was manifestly superior to the other chiefs nothing would be done about his pretensions. It
was only after the seismic wave, with its catastrophic effects, that i Tua seems
gradually to have assumed a dominance over the other three chiefly lineages.
In the inter-lineage adoption that occurred after the seismic wave, a child
from the strong lineage of Muliwutu was adopted into i Tua, to insure the
continuation of this chiefly line; this seems to have lined up Muliwutu behind
i Tua. With this support, i Tua became dominant and constituted itself the
lineage of the supreme chief of the island, a status which it has retained to
this day. As a lineage of the supreme chief was politically dominant, so 613
were its gods preeminent over the other lineage gods. Mataliki and Taua,
the major gods of i Tua, may then be considered the major gods of the 645
island; they were most often called upon by the supreme chief to provide 771
favors for the island as a whole. Nevertheless, the other chiefly lineages,
particularly those of Ngake, have never completely acquiesced in either the
political or religious dominance of i Tua.

POLITICAL CONTROL

The functions of the three governing groups on the island may be sum- 633
marized as follows: 646

> Village meetings ([illegible]), attended by the chiefs, sub-chiefs, and all adult 631
> males of the village, discussed matters affecting the village and the reserves, and
> settled inter-village disputes. Meetings of the old men's group ([illegible] 643
> [illegible]) discussed island affairs. Meetings of the chiefs (wakapapanga a te wui aliki)
> discussed island and inter-lineage matters. The division of functions between these 645
> governing bodies is not clearly remembered today when the government of the island [771]
> has been so completely transformed by the resident agent and his nominated Island
> Council. Informants believed that the supreme chief called the minor chiefs together
> at unspecified times to discuss matters referred to him by the council of old men ([illegible]).
> All decisions of the old men were presented to the high chief or the council of chiefs
> for final approval. Whether or not this approval was nominal depended on the prestige
> and power of the high chief. Notwithstanding, the final veto seems to have rested with

613 through marriages or adoptions several generations back. Feeling is that the matter will have to be decided by the native Land Court.

693 Ngake genealogies of the chiefs of Muliwata and Matanga lineages were
692 given me in confidence, informants fearing that if given publicly, rivals to the title succession would know before the Court met what case would be put up on behalf of the Ngake claimants.

613 The succession to title in these Ngake genealogies follows the same general rules as succession to the title of supreme chief. Where there was no blood child to succeed him, the chief nominated an heir from other lines of the paternal lineage. One chief of Ngake affiliated with Loto village after his induction to the title. No reason is given for this, but as it was at the time of first missionary contact, it is possible that he became converted and took up residence near the mission. He could not carry the title with him to Loto, so the people of his lineage chose another man from a related sub-lineage and inducted him as chief. When this chief was about to die, he requested the son of the convert to come back and affiliate with Ngake. This the son did, and when the chief died, the succession passed to the convert's son and has continued since down this paternal lineage. Another sub-lineage in this grouping lays claim to the title of chief, but because the rainbow never appeared in the sky when its candidate laid claim to the title, the line is considered a chiefly line only under protest from the other sub-lineages of the grouping.

INDUCTION TO CHIEFTAINSHIP

613 Induction to chieftainship took place on the sacred enclosure of the lineage.
643 All the people gathered outside the enclosure to watch the proceedings:

787 Dressed in the costume of a priest of the lineage, wearing the appropriate headdress and body covering, the chief-elect was lifted on high and carried to the threshold of the sacred enclosure by the men of his lineage. At the threshold he was met by the priests and other chiefs of the lineages, all dressed in the appropriate costumes of their own gods. This group of priests and chiefs conducted the chief-elect inside the enclosure and up to the sacred stone ([illegible]). The chief crouched or rested on a stone seat ([illegible]) placed in front of the sacred stone. He tied a coconut leaf decoration ([illegible]) to the sacred stone and then prayed silently to the god of the lineage for a successful and prosperous reign, for nuts, taro, and fish in abundance, for strong souls for his people and for their vigorous old age, unmarked by gray hairs on their heads. The god thereupon sent a sign that he had heard and was favorable to the request. An appropriate sign was for the flesh of the chief to break out in goose flesh. A [illegible] came looking [illegible] or crowds was also considered a favorable sign from the god. After the sign had been noticed by the assembled priests, the chief walked to the gate of the enclosure. As he stepped over the threshold, the people of his lineage rushed forward and carried him on high, back to his house or his resting place. This completed the induction proper, and thenceforth the chief was a sacred person, taking no part in sports or economic activities. [226]

A distribution ([illegible]) of nuts took place immediately after the induction, and all the people waited to receive their share.

If the reign of the new chief was good and prosperous, the people knew they had correctly interpreted the sign of the god. The rainbow test for the chief of Muliwata was considered an infallible preinduction test; but the other lineages had to depend on future events to tell them whether they had

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young, but genealogies give none of his three wives as related to Tulikyanga unless by adoption. A just and merciful man in his old age, he ruled the island wisely and well. When he thought death was near, he called the people together and told them it was time to choose a successor to the title of supreme chief. Casting about for a suitable candidate, the people chose Ielua, son of Lawakali and his wife, Wolia. Lawakali was an adopted member of Tua lineage, killed with the chief Alatokupu. Taiva took the youth Ielua under his care, taught him the principles of wise rule, pointed out the wrongs of the former chief, and told him that to rule justly and peacefully he must be kind and considerate to the people and never sanction murder, no matter what the provocation. Ielua listened well to the advice of the old man and was finally inducted into office to become the thirteenth chief. Ielua's son by his first wife, Kaitoi, was Kaili who became fourteenth chief.

In the generation of the fifteenth chief, a curious situation arose in which there were four supreme chiefs at the same time. This apparently resulted from a struggle for the title, in which trouble was finally avoided by a compromise.

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Te Tio, a fifth generation descendant from the eleventh chief, Tulikyanga, was married to the granddaughter of Taiva. He had been adopted by Kaitoi, Ielua's first wife. To favor this wife, for whom he had great regard, Ielua nominated her adopted son, Te Tio, to be chief when Kaili, his blood son, died. Kaili died and Te Tio became chief. But Pupua, blood son of Ielua and Ulupa, his second wife, also claimed the title of supreme chief, and to avoid trouble he too was formally inducted as chief of Loto. Pupua nominated his son, Vailoto, to succeed him and had him inducted as chief during his lifetime in order to make sure of the succession. As Kaili's wife, Yatawa, was descended from Manihiki castaways, Kaili's son, Malowula (Pilato Mosse) also had traces of Manihiki blood in him. When Pupua nominated his son, Vailoto, as chief, the Yato man Tapi (another descendant from the Manihikians), who then was the executive officer (yolo), was ambitious for his lineage and insisted that before he would agree to the appointment of Vailoto, Pupua in turn must agree to the appointment of Malowula, son of Kaili, as another chief of Loto.

Pupua was forced to agree to the demands of Tapi, and thus there arose the anomalous situation in which there were four supreme chiefs, all duly inducted on the sacred enclosure of Manihiki and all holding office at the same time. Te Tio and Pupua were of one generation; Vailoto and Malowula were of the generation level below. The arrangement seems to have been an amicable one and without trouble or rivalry of any sort.

When the four men died, Pakitonga, son of Te Tio, became sixteenth chief. On his death the succession passed back to the first son of Malowula, and Pilato became seventeenth chief. He was captured by Peruvian raiders on their visit to Pukapuka in 1862-1863, transported to Peru, but finally escaped and returned to Pukapuka to die in 1933. He was succeeded informally by his brother, the present chief, Nawaui, a man now about 100 years old. Nawaui insisted that he should not be formally made chief, for he was old and likely to die soon; but his nomination was approved by the island administration. He is married; his wife has children but he has none. No one knows who is likely to succeed to the title when he dies. There are at least four contending groups: the descendants of Nawaui's sister, descendants of Pakitonga, and descendants of Pakitonga's two elder sisters. Other lineages in Ngake are also interested in the succession, claiming a right

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Table 4. Ariki Succession

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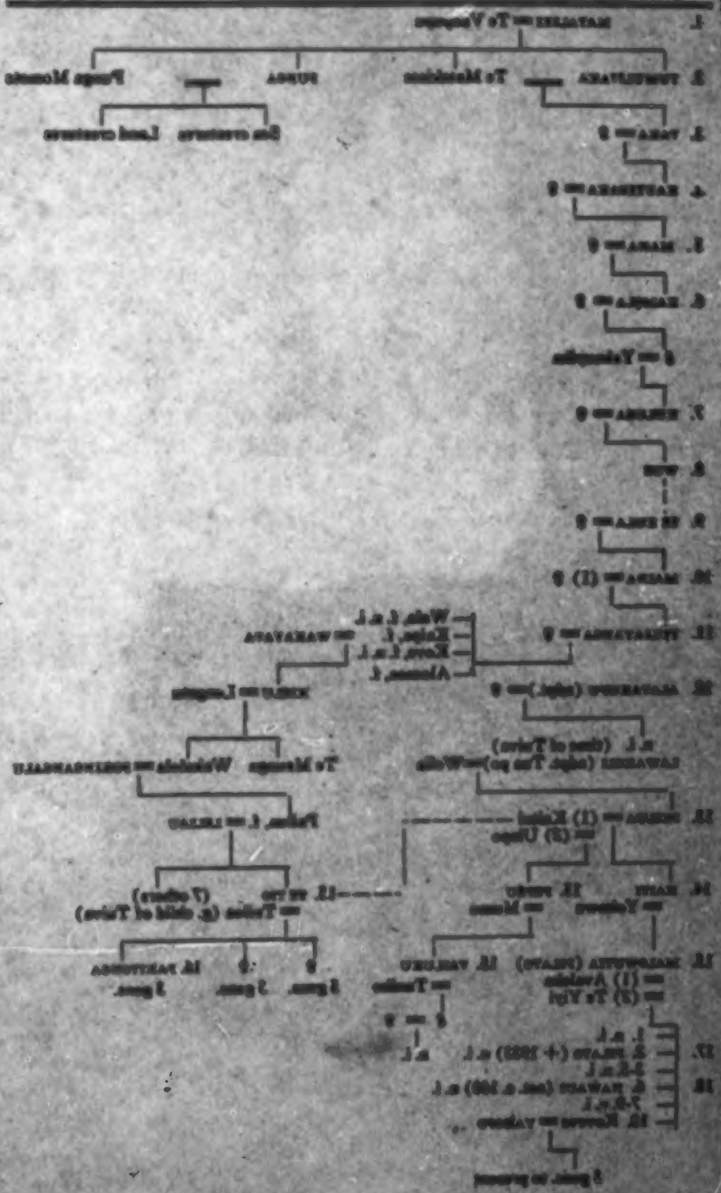
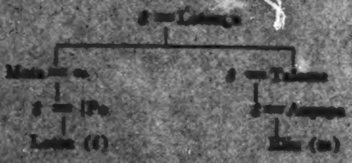

Sea creatures
Land creatures
3 gen. to present

601 cousin-in-avoidance—is the man's *ilamutu*. The father calls the child my *ilamutu*; the
child calls the father my *matua*. No such term would be applied to the child of a brother
adopted by the brother's sister, nor to a grandchild adopted by grandparents.

601 Hutchin (18) is the authority for the statement that *isakava* (*sic*) is the
605 term applied to the daughter of a sister. What this means is not clear. The
word *yinakava* is archaic and is found only in old chants. It is applied to
114 anything or anybody which is tapu. Hence the god house on a double canoe
or a sacred structure is *yinakava*. Similarly one who stands in the relation-
728 ship of cousin-in-avoidance to the speaker is *yinakava* to the speaker. A man
might call his cousin-in-avoidance my *yinakava*, but only under stress of
emotion as in mourning ceremonies; in a love chant one's cousin-in-avoidance
may be addressed, by poetic metaphor, as *yinakava*.

605 Avoidance relations hold between those who are related to each other as
hainga wahine or as *wale atua*, and differ in intensity for the two types of
602 relationship. The *wale atua* relationship involved more complete avoidance.
But what constituted the difference between the two relationships is hard to
[711] distinguish at this date, as both have largely disappeared under missionary
influence. Groups of informants were decidedly unclear on the subject,
some giving as *wale atua*, for instance, the names of people who did not
themselves recognize their *wale atua* relationship to the others. Pau gave the
clearest definition of both terms:

> First cousins of opposite sex, whether cross or parallel, stand to each other in the relationship of *hainga wahine*. In the next generation, children of opposite sex of these *hainga wahine* are *wale atua* to each other. In the next generation children of opposite sex of *wale atua* are also *wale atua*, and so on, theoretically as long as the common bond of descent is remembered. Children of the same sex of *hainga wahine* are *taina* to each other. Children of these *taina*, as also children of *taina*, themselves the children of brother and sister, if of opposite sex, are *wale atua* to each other. Similarly, children of the same sex, of *wale atua* are *taina* to each other, but children of opposite sex, of these *taina*, are *wale atua*, because, in both cases, the remembered ancestors two generations back were either *wale atua* or *hainga wahine* to each other. This is illustrated in the genealogy:



Mata and Tilaona are brother and sister. Their children, cross cousins of the same sex, are *taina* to each other. The children of these *taina*, Lotoa and Elia, are *wale atua* because they are related through *taina*, first cousins of the same sex, who again are descended from blood brother and sister. Children of Elia and Lotoa, of the opposite sex, are *wale atua* to each other.

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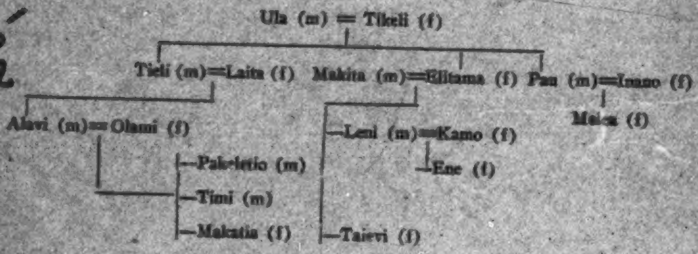

In the above genealogy, the three children of Ula and Tikeli, Tieli, Elitama, and Pau are brothers and sister. Their children of opposite sex are *kainga wakama*. Melea is a *kainga wakama* of Alavi and Leni; Taievi is *kainga wakama* to Alavi. In the next generation, children of these four are *wale atua* if of opposite sex, *taina* if of the same sex. Hence, Pakeletio and Timi are *wale atua* to Ene; Makatia and Ene are *taina*. Children of these last two, if of opposite sex, will be *wale atua*, because their parents are one generation below those who are *kainga wakama* to each other.

Midst the general confusion, Veti and other informants believed that the *wale atua* relationship arose only when there was a first-born female with brothers and sisters in the generation level from which descent was traced. This characterization would have more weight if there were other patterns in Pukapukan society pointing to the importance of the first-born female in the formulation of kinship patterns and practices. Since there are no such patterns, it is best to regard Veti's belief as incorrect and merely an example of the confusion that holds today regarding kinship structure. 605

Kinship tapus and avoidances may be summarized as follows:

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Kainga wakama may not marry or have love affairs with each other. They may talk together at a family meeting or when others are present, but such talk must be brief, and must be done with downcast eyes. They may talk together privately only under extreme provocation, as, for instance, to warn one another of impending danger; yet even in such an instance the rule is not often broken. They may sleep in the same room with other relatives, but not on the same mat or under the same mosquito net. They may eat together publicly, provided they eat from different food platters. Some informants say *kainga wakama* may pass each other on the road, perhaps with a brief greeting; others believe they should not pass on a path.

Wale atua tapus are more stringent, demanding a total avoidance. *Wale atua* may never communicate or talk directly to each other. They may never be in the same house together. They must avoid each other on a public road. They may be together at a public meeting, but must occupy places as far apart as possible. This tapu includes the husband or wife of a *wale atua* in relation to the reciprocal *wale atua*. Thus, the husband may talk to, but not wrestle with, the *wale atua* of his wife. He may go in a fishing canoe with her *wale atua*, provided a third party is present. He may not talk privately to his wife's *wale atua* to proffer requests for fishhooks or gear, but must wait patiently until the *wale atua* notices his need. Children of *wale atua* may speak to their parents' *wale atua*. If, while a husband is beating his wife, her *wale atua* appears, the husband desists immediately because of the tapu relation between the two people. A whipped wife might take refuge from her husband with her husband's *wale atua*, knowing

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605 that the husband would not dare to come to her as long as she remained with his *wale atua*.

[578] In the relationship of two *wale atua*, the wish of one is always acted upon by the other; it is even equivalent to a command that may not be disobeyed. A sure way for a 584 boy of former times to get an unwilling girl to marry him was for the boy to work for the girl's *wale atua*. No word was said about courtship, but the male *wale atua* knew that the boy wished to marry his female kinswoman. If he was pleased with the boy, he sent a message to the girl, telling her to marry the boy; a girl would rarely disobey this command from her *wale atua*. A girl might similarly court a boy by working for his female *wale atua*. Even today, where a boy or girl voluntarily works for *wale atua*, people know he or she is trying to force a marriage with the related *wale atua*, though today the wish of the *wale atua* is not so unhesitatingly obeyed as formerly.

605 The death of one *wale atua* is the occasion for the display of unceasing affection by the surviving *wale atua*. Some of this affection may be real, brought to high tension 602 by the repression of strong avoidances; some of it may be due to cultural fiction. When the *wale atua* is dying the other *wale atua* may be present and is allowed to talk to, 765 embrace, and weep over the dying relative. (See p. 299.) It is appropriate for a surviving *wale atua* to mourn for a deceased *wale atua* for a period that would be considered extreme for other relatives. As informants put it, the surviving *wale atua* mourns more for a dead *wale atua* than for husband, wife, father, or children, and this is not considered excess of emotion. There is no ideology, however, of the relationship of *wale atua* in the Underworld, and informants were at a loss to know how they would behave to each other when they met there. Similarly, at parting, when one *wale atua* leaves the island to go away, it is considered proper for the *wale atua* to break the tapu at this time, to embrace and mix their tears. The parting may be until death, hence an approximation to death behavior is in order.

605 The tapus between *wale atua* come into operation when the young people become sociological adults ([illegible] and [illegible]). Before this time the two kinsfolk are 881 considered children unable to understand the kinship tapus. Hence they may eat, live, and sleep together in the same house. In theory, the two *wale atua* are taught at the 867 time of puberty the kinship tapus that they must observe toward each other, but presumably the educational process is spread out over a longer period—otherwise the validity of the tapus have little opportunity to be established. A grown female may be present at the birth of her younger male *wale atua* and take care of him during infancy and childhood; similarly the older male *wale atua* may care for his younger female relative. Friendly, non-tapu relations are maintained between the two until the younger of the pair reaches puberty, when all connection between them ceases and the strictest tapu is established.

605 When the adopted (*hokoti*) child joins his new household group, he becomes a *wale atua* of the children of the adopting parent's sibling's descendants. Other things 597 being equal, he ceases to regard as *wale atua* those children who would have been his *wale atua* had the adoption not occurred. This follows from the fact that the *hokoti* child is in the "as if" relation of blood child to the adopting parents.

605 The actual operation of the *wale atua* relationship was observed in the case of Elia and Lotoa (p. 259):

> Lotoa is some years older than Elia. She lives directly opposite him, across the village road. The two never come closer to each other than the width of the road. They never talk to each other. Should both be sitting outside their houses, they never look at, or face, each other. We asked Lotoa to cross the road one day to the rear of Elia's house where light was favorable for taking photographs. She refused for a long time, and only came, in the end, when Elia retired to a safe distance, and her husband persuaded her that it would not matter for once. Immediately the snapshot was taken she hurried back to her own house and sat with her back to us. Veti, Lotoa's husband,

605 visits at the house of Elia, and Molingi, Elia's wife, visits with Veti. Neither Elia nor Lotoa visits the opposite house, even when he knows the *wale atua* is absent, through fear of inadvertently touching objects belonging to the other. All communication between the two is carried on through a third person.

605 The resident agent remarks on the difficulty of court work when *wale atua* are involved in a case. Neither *wale atua* will appear in court to act as 695 witness or plaintiff but insists on sending a proxy. If the agent insists that both *wale atua* shall be present in his court, they turn their backs on each other, keep as far apart as possible, and direct all questions to each other through intermediaries.

602 The intense tapu that exists between *wale atua* relatives is supported by the cultural fiction that they are potentially and actually more interested in 835 each other emotionally than in other members of the opposite sex:

588 Sometimes in spite of the tapu *wale atua* become so shameless as to consummate an emotional attraction. Formerly, where this actually happened and was discovered, the 753 couple were rendered outcasts by their families, who prayed to their family gods to punish with sickness the terrible sin. The common punishment asked for was filarial infection of the two *wale atua* and their descendants for ever and ever. Some informants tended to take the incidence of filaria today as due to forgotten or half-forgotten *wale atua* incest in the families of those affected. One well-remembered case is that of Pokala who married his *wale atua*, Woetau, just after the mission was established. Husband and wife, their twelve children, and numerous grandchildren all suffered and continue [171] to suffer to this day from filarial infection. One old man, a good Christian, calmly assured me that his filaria was due to the fact that his first wife was his *wale atua*, whom he married in an excess of Christian zeal with an idea of proving that old tapus were worthless. He expressed no regret at his hasty action.

The attraction of *wale atua* for each other is mentioned many times in the old love 602 chants (*lupu*), many of which seem to have their origin either in a hopeless or in a consummated affection of one *wale atua* for another. When asked for rationalizations 539 for the *wale atua* tapus, informants could only quote the two following sections from *lupu*. The rationalization is obscure and can not now be clarified, but there is no mis- 835 taking the intensity of emotion that finds expression:

Ko Mataliki [illegible], ko Tolu [illegible]	You are Mataliki (the Pleiades), I am Tolu (Orion)
[illegible]	(We lived) like two [illegible] together (as do these stars)
Wili mai, e taku wale atua	Turn to me, oh my *wale atua*
E [illegible], e [illegible]	You are sacred, you are the tapu plate
Ko [illegible]	(For which) my heart has longed;
[illegible] pana e te [illegible]	(When I see you) my pulse pounds like the [illegible] (blowing) of the Right whale.

The second chant runs:

Ko [illegible] ai au,	I had fixed my desire (on my *wale atua*),
Ko yalo mayo i te [illegible],	The first-born opens (herself to me) and satisfies my desire.
[illegible] mate ai au	Dead is my heart (with shame),
Kua wano i taku kai [illegible],	I go to my shameful food,
Ma taku [illegible] kia koe;	With my incest for you;
E kiai na toko toko [illegible],	Unapproachable is the desire of my heart,
Ko [illegible] mai ai,	(I am) dragged back (by it) to where you sit,
[illegible]	I return near (this place) by the main road.
Wili mai koe ko talatala,	You turn to me that we may talk,
[illegible]	I hide our secret understanding: we shall have intercourse, shan't we?

602 The consciousness of the breaking of a tapu is clear from the man's remark in this chant that his love for his *wale atua* is *kai lumanga* (food of shameful abnormality)
835 and, further, *kai wulenga* (incest).

No reference to *wale atua* incest is found in any of the myths or folktales recorded.

182 The kinship tapus are best preserved today among the older people. Among the younger generations, several *wale atua* have married:

> 602 In one such marriage, the husband had to trick his protesting relatives by being
> 588 secretly married. This was only possible because the Cook Islands Act allows *wale atua* to marry, and the resident agent had to perform the civil rite. Another marriage occurred
> 177 just before we left Pukapuka. The bride's mother's brother refused to attend the marriage or to have anything further to do with his classificatory daughter. The groom's father at first objected because he feared the marriage would be sterile, probably owing to the breaking of the tapu, and his descent line depended on issue to the marriage. His fear was increased by the fact that though his son had been courting the bride for several years, no child had been born. The father finally yielded to the entreaties of missionary friends. Wiseacres predict that the marriage will be sterile, which is the very best that can be hoped for, apart altogether from visitations of sickness.

602 No purpose is served by traversing at this stage the actual functioning of the kinship system. It presents no features that call for special comment. Economic obligations associated with kinship relationships are discussed elsewhere. Similarly the importance of the kinship group in personal ceremonial is mentioned in the description of rites at birth, marriage, and death.

THE LIFE CYCLE

BIRTH

CONCEPTION

842 Conception is known as *te wakatitinga o te tama* (the placing in of the child). The period of gestation is called *te wakailikinga* or *te ikonga*. The primary meaning of the word *iko* is "to germinate" as in the sentence: "Ko te wene ko iko ai te tama" (it is the semen which makes the child germinate). The following is a typical explanation of conception given by a woman informant:

> 842 Conception involves an organ (*mama*) in both the male and female (*mama* is given elsewhere as meaning "lung"). The male secretion enters the female *mama*, the female
> 831 secretion enters the male *mama*. The informant was unable to specify the exact location of this organ, though she thought the native practitioners would know. On being
> 753 pressed to indicate the locus of the *mama* in her own body, she pointed to her stomach and said the *mama* was close to it. She knew that it is the semen that germinates the ovum, but could give no rationalization as to the method. She also said that it is the
> 833 *mama* which generates the male and female secretions, and should this organ dry up, as it often does, then the person affected becomes thin and sickly, suffering from debility. This is a common disease in Pukapuka according to informant, one cause of which is too frequent copulation. Five or six times in succession on the same day or night, informant explained, would be too frequent.
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> 842 The theory of conception was discussed with Pau, a native medicine man. His theory is that the semen of the man congeals the blood in the uterus of the woman. This

842 stops the monthly period and creates the fetus. If the fetus is male, it is formed mainly
from the semen. If the fetus is female, it is formed mainly from the blood of the
827 female. If the child when born partakes strongly of the likeness of the father and the
mother, then it has been formed equally from the semen and the blood of the mother.
The best time for conception, according to Pau, is immediately after the menstrual
period, never before; common opinion, however, has no ideas as to whether one part of
the monthly cycle is more or less favorable to conception than another.

843 The recognized sign of conception is cessation of the menses, invariably
accompanied by the mother's having a *mili wakatiti tangata* (conception
787 dream) of a coconut tree full of nuts, or of a fruitful talo patch, or of blossoming flowers or blooming trees. A later indication recognized is the darkening of the nipples. The sign for the father is a *mili wakatiti tangata* of a flock of birds. When a man has this dream he tells his wife of it and asks
[828] her to confirm the fact of her pregnancy. Pau said that the god of the lineage sends these dreams to the parents or to relatives of the couple, and they are sure signs of pregnancy.

843 Gestation is reckoned as taking ten full moons to complete. Delivery is to be expected on the tenth moon after conception takes place. A woman refers to the moon in which she expects confinement as her *wakangaulu* (tenth). No mnemonic device is used in the moon count.

842 No contraceptive methods are known, nor is there a belief in the possibility of contraception.

No medicine or therapy is known that will enable a sterile woman to have children. The only cause of sterility and hence the only cure is psychological:

> All the reasons adduced for specific cases of sterility relate to the primary cause that the woman, or her husband, has a bad heart (*ngakau kino*). In order to have children, the woman must be humble and obedient to her husband, faithful in thought and deed, not given to affairs with other men, and sincerely anxious to have children, upon which she must concentrate all her thoughts, during all her waking life. From this point of view, a Pukapukan woman is considered sterile (*wawine punga*, woman of stone) not only if she has not had children, but if she has borne no more than one or two, or again, if, having had a child by a first marriage, she has remarried and has had no more children. According to informant's classification, the cultural ideal may be carried so far as to consider sterile a woman who has had four children, all by her first husband, and all of whom have died. The cultural attitude to sterility is best illustrated by the remark made by a young man (*lopa*) to a sterile woman. It was on the evening following a big food division, when a group of young people were sitting about discussing the way the food had been divided. Chiding a childless woman of 35, the young man said: "What a pity to make a division of food for a woman without children. All she is good for is to *tiko* (evacuate)." It is good to give a full division to a woman with children, because then the food goes to make more children, but if the woman is sterile, the food is wasted.

PREGNANCY

843 Nausea after eating is common at the beginning of pregnancy. Another illness that marks pregnancy is the formation of an abscess on the abdomen. This is likely to occur in the second month. Not only is the pregnancy the

843 cause of the sickness, but the sickness itself is proof positive of the pregnancy.

The parents may continue to have intercourse right up to the time the child is delivered, without causing any injurious effects either to mother or child. No new position is adopted in intercourse, but the husband takes care to lighten his weight ([illegible]) on the woman as much as possible.

[116] Many tapus are observed by the pregnant woman. When she becomes pregnant for the first time, her mother or other female relative warns her about the various restrictions: "Obey these and your child will be born well and in good health; disobey them and you will have a hard labor and the child will be physically disfigured or a weakling." Inadvertence or lack of knowledge is no excuse for the breaking of these tapus. Only rarely could violations be set right by special intercessions directed to the goddess Tau.

The following behavior tapus do not greatly restrict the everyday activities of the pregnant woman:

A pregnant woman may not spit out in quick succession any food, fish bones, or indigestible food scraps. If she does, her child will be born with a mouth that is continually drooling and dribbling saliva. If she needs to clear her mouth she must expectorate vigorously once and once only. A pregnant woman must not work in the talo fields, not because of possible injury to the child, but because it is likely to cause hemorrhage at delivery. This tapu is rarely observed today. A pregnant woman should not adorn herself with wreaths (*pei*), decorative kilts, or other ornaments that are wound around the body. If she does, her child will be born with the umbilical cord twisted round its neck, and as likely as not choked to death. A pregnant woman may not wind up hanks of fishline, or sennit of any sort, nor may she wring out coconut cream, wash dyes, or clothes after washing, nor may she have anything to do with twisted materials of any nature lest her child have its cord twisted about its neck. Mat making is not fraught with any harmful consequences, provided the woman does not roll her plaiting materials in the first place. If a woman quarrels with her husband, she will have a miscarriage, or else her child, when born, will be troublesome and hard to manage.

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261 A woman who dislikes her favorite foods during pregnancy and longs for special dishes such as nuts with sweet husks, pandanus keys, flying fish, or *Tridacna* shellfish, may safely indulge her tastes provided she does not eat the following foods which will have disastrous results:

[153] Eating *kaveu* crab meat gives her child crooked legs; eating *tupa* crab meat gives her child bow legs. The body of the *kaipea* crab may be eaten, but not the legs. Again, eating the abdomen of the *kaveu* crab results in red testicles in the male child or large red *labia majora* in the female child. Eating fish caught by spearing produces little pock marks or abscesses on the skin of the child. The fact that husbands are not careful about the way they kill fish is given as the reason for the wide prevalence today of chronic skin sores on many babies. These sores break out on the child in places corresponding to the places where the barb of the spear entered the skin of the fish. The pregnant woman may not eat any fish killed by a thrown stone or club, lest her child have a bad, injured foot or be born with the back of its skull soft and squashed in. Whether the fish is killed by her husband, by male relatives, or by unrelated men makes no difference to the incidence of the result. Hence a woman must be careful of the food she eats from a food division or feast.

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Eating fish with small mouths, such as *manini* or *kokowa*, produces a small mouth in the child. Eating the head of a fish with a large mouth, like the groupers, produces a large mouth. Eating a horned fish, like the *ume*, unicorn fish, or the *kolili*, produces a bump on the forehead of the child or a horn on its back (*tala tua*) similar to the "horn" on the back of the *kolili*. Certain other fish, like the *ahaaha*, needle fish, the pregnant woman may eat with safety, provided she does not touch the head or the long tail. Eating a flat fish, such as the *ali* or the *pangipangi*, varieties of flounders, makes the baby grow long and flat. Eating the head of a fish with large teeth produces a baby with two very large incisor teeth. Eating a fish that has poison barbs or fins produces two bony nodules on the ankles of the child. *Pala* (*Acanthocybium*), albacore, bonito, red mullet, and snappers are considered good for the pregnant woman, but she must be careful to eat no fish which is beginning to spoil or has soft flesh, lest the skin of the child be soft and partly rotten.

In general, coconuts are good for the pregnant mother provided they are freshly picked from the tree. Eating or drinking nuts that are a day or more old produces sore spots on the skin of the child, for there is the presupposition that there are slightly affected spots on the shell or flesh of a nut one day old. If the drinking nut is very old, the skin of the child will be similarly rotten. Eating a very large nut produces a child with an abnormally large head. Drinking misshapen coconuts, of which a part of the shell is concave, produces concavities on the skull of the baby. Eating or drinking of a nut from the center of a large cluster of nuts, where the nuts have been tightly packed together in growing, compresses tightly or crushes the baby's head.

Eating the young shoots of the talo plant produces in the male child a birthmark on the forehead, in the female child a birthmark on the *labia majora*. Eating talo corms with large protuberances on them produces warts on the head of the child. Eating a tuber with a double root produces a male child with two membranes (*kalewa*) on the scrotum, a female child with two membranes joining the *labia majora* to the anus. Eating rotten talo causes the eyes and navel of the child to be infected with disease, and gives the child a general physical weakness. Eating talo tubers that have been gnawed by a rat or *kaipea* crab produces sores on the skin of the child.

Eating the bud shoots on the side of the pandanus key produces a child with two *piki wale* (cartilaginous protuberances—tragi) in front of the ear. Eating over-ripe pandanus keys produces sores on the body of the child. Eating crooked or misshapen bananas produces a male child with a very big penis or a female child with a very wide membrane between *labia majora* and anus.

Eating a bird whose wing was broken when it was caught produces a baby with weak arms; a bird whose chest was injured in the catching gives the baby a weak and diseased chest; a bird with prominent breast bones produces a pigeon breast in the child. Uninjured birds in perfect condition are suitable food.

A final class of foods that must be eaten with care is shellfish and turtle. Eating periwinkles (*alili*) produces warts (*ihonga alili*) on the top of the baby's head. *Tridacna* seems to be the only safe shellfish that the mother may indulge in. Eating the head of the turtle produces two scars on the mesial sagittal plane of the head like the marks on the head of the turtle. Eating the plastron of the turtle makes the child suffer from respiratory defects and breathe in a noisy, labored fashion after the manner of the turtle. Eating the carapace of the turtle produces a hunch-backed child. Eating turtle eggs produces a child born with a hernia. Eating the green fat of the turtle renders the child liable to be born with a perenially running nose and eyes. With the above exceptions, the flesh of the turtle is a good food for the mother to eat.

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From the list of foods that she must take care not to eat, it is evident that the ideal diet for the pregnant woman consists of the general foods of the Pukapukan diet, with the caution that they must be fresh and sound in shape. Foods that have special peculiarities of shape are undesirable because

843 of possible contagious influence on the shape of the child growing in the womb.

The pregnant woman should be careful not to bring on miscarriage after the fourth month of pregnancy. Though there is no record of deliberate attempts to produce miscarriage by physical means, miscarriage is easily produced by psychological means. When a woman is dissatisfied with her husband, or commits adultery in thought or deed, or does not love her husband as she ought, or does not desire a child by him, or is in general mental distress, a miscarriage is likely to follow. No preventive is known to ward off the possible effects of such a psychological upset, save only the counsel to the married woman to be of good cheer and of easy heart.

847 As to the frequency of abortion, it was impossible to gain any information. There is a fairly well established technique for securing abortion, however, and informants could give many cases where it might be desired:

If the child is the result of incest; if the woman is tired of the man who is the father of her child and wishes to marry another man; if the woman fears that her new husband will not wish to be the sociological father of her child or will despise her because she is pregnant by another man; if a married woman becomes pregnant by another man, and is afraid that her husband will thereby discover her intrigue; if a woman is pregnant by a man who is ugly or physically deformed, and is afraid her child may be born with the deformities of its father. For all these reasons a woman might decide on an abortion. A well-informed woman informant knew of none of her friends who had had an abortion, but she thought it occurred nowadays among unmarried girls.

The method of securing abortion is by physical manipulation, called *lomi* [illegible] (pressure on the fetus) or *lomi* [illegible] (pressure on the pregnant woman). A medicine man is rarely employed because it is shameful to get an outsider to do this. The father or mother of the pregnant woman gives her a prolonged and severe *lomilomi* (deep pressure) using the [illegible] technique ([illegible]), rubbing from the top of the abdomen toward the thighs. "The blood inside gets all mixed up, it flows outward from the body, and carries the child with it", is the rationalization given by Pati. He said this *lomilomi* method would be sure to work up to the fourth month of pregnancy. Another informant believed that the efficacy of the *lomilomi* would be improved if the hands were dipped in hot water before being applied to the abdomen. This informant also recommended that the pregnant woman should drink plenty of hot water.

761 Death during pregnancy or confinement is considered a particularly bad death ([illegible]), whether the child lives or dies. A deceased pregnant
761 woman is buried in the condition in which she died; no attempt is made to
843 remove the fetus from the womb to bury it separately. No special ideas of fear are associated with the ghost of an unborn child. Informants were very vague as to its exact status in the Underworld.

843 In general, the social attitude toward the pregnant mother is matter-of-fact. There are no tapus on her participation in social events. Tapus on her diet and behavior are all destined to protect her baby's health or bodily form; they are not a matter of social pride or shame in her. Her husband, if she has one, treats her with especial consideration during this period by provid-

843 ing her with more fish than he otherwise would. But her work is not lightened by outside assistance during her pregnancy.

SEX OF THE CHILD

842 787 Methods of determining the sex of a child before its birth are based on observations of the mother's abdomen and on dreams. If the pregnant woman's abdomen is small and extends outward in front, she is thought to be carrying a female child. If her abdomen is large and fat at the sides with predominant lateral extension, her child is a male child. If the mother or any of her relatives has a dream of talo during the period of gestation, it is taken as a sign that the child will be a girl. But if the dream is of a coconut tree, a male child is to be born. Somewhat similarly, a dream of a beautiful bird means that the child, male or female, will resemble the bird in beauty; a dream of a white man means that the child will be of fair skin.

842 There seems to be no cultural pattern of sex preference either for the first-born or for later children. A man wants his first-born to be a son; a woman wants a daughter. A family of children of alternating sexes (*poli towilowiloaki*), with either a boy or girl as the first-born is generally preferred to a family of boys only (*poli tane*), or to a family of girls only (*poli wawine*), or to a family of first boys and then girls, or vice versa. The pros and cons of having more boys than girls, or more girls than boys, were discussed by informants Veti and Talainga in a sort of informal debate. Veti is the father of three boys and a girl, all adult. Talainga, having had no children of his own, adopted a little girl (despite his alleged preference for sons). Their discussion is summarized thus:

> Talainga speaks first: The desirable children are sons. I would not like to have daughters because they stop for only a short time beneath the roof of the father. When a girl marries, her husband takes her away to another house, and she is so caught up in the ties of the other household that she is lost to her father for good. On the other hand, a son stays at home, and when the father is old and weak the son will take care of him. The son's wife comes as a new person to the house. Where there are many sons, there are many wives who, with all their relatives, make many hands to assist in the work of the household. When the father is dead, it is the son who carries on the family line, whereas the daughter's children belong to the paternal lineage of another. Most men prefer their first-born to be a male. This gives much certainty to succession, it means that the paternal descent line will not be lost, whether the following children are male or female. It continues—bar accidents—the genealogical record, whereas daughters break the record and continue another line. Because of accidents, it is always well to have more sons than daughters. The descent line would be lost by a generation of daughters only, for the children of daughters go to the lineage of their father.
>
> But something must be said for the point of view of the mother: she would be glad to have the first child a female, for this increases her status with the maternal lineage, assures continuation of descent within the lineage, and finally, gives the mother more help about the house as long as the child stays at home.
>
> By having more sons than daughters, a man gets more food shares from various

842 types of food divisions (for work activities) than by having plenty of daughters to share in the wealth of the maternal lineage.

Veti says on this matter: my ideal family would be composed of equal numbers of male and female children. I would like daughters to assist in the work of the house while they are young and unmarried. I would like them for the food shares they bring in. Even though daughters are nominally lost to the family when they marry out and go to live elsewhere, nevertheless the system is so flexible that their husbands can generally be relied on to help with food and work when the occasion demands. A son is necessary, especially a first-born son, so that the name of the family can be handed down to later generations.

As long as the daughters do not marry early, the father is assured that their food shares will be brought into the house for a reasonably long time. Whereas the adult son may get independent, go to live elsewhere, and take his food shares away from the house from an early age, a daughter would rarely be so independent. If the unmarried [848] daughter has children, these remain with their mother's father if he so desires and insists, even though the daughter later goes elsewhere to live with the man she marries. These "illegitimate" children bring in more food shares to his household, and thus increase his wealth and status in the community.

Whatever prospective parents may prefer their child to be, no method is known to influence its sex. They can only fervently hope that the child will be what they desire. They may express their hope aloud in such words as, "Pi pe ta tama tama e wai tamawawine!" (If only our child will be a girl!)

DELIVERY

844 The pregnant woman continues to live in the house of her husband or father, if she is unmarried, up to the time of her confinement. When she feels labor pains (*wakatinga* or *wakatakataka*) she goes outside to the back of the house, if this is a quiet place, and lies down on a mat or coconut sheet placed on the ground.

No coconut cream or other purgative is given before labor to clear the lower bowel. In delivery, the parturient woman sits on the ground with her legs stretched out and apart in front of her. Should this position become uncomfortable, she changes to a squatting position. But she soon resumes the preferred sitting position. A medicine man specializing in obstetrics (*tangata wakawanau*) or, failing him, any close male relative, sits in the same position behind her; she may also sit on his outstretched legs. The parturient woman is further assisted by another adult, usually a woman, mother or mother's sister, who squats in front of her and leans forward, pressing her hands down on the parturient woman's knees, thus giving her support in her straining movements (*kokonenga*). When the baby comes (*to*, falls) it is taken either by the mother herself or else by the attendant in front of her. To help the woman in delivery, the *tangata wakawanau* applies physical therapy (*papangi te tau muli*), pushing with the heel or the palm of the hand on the small of her back. If the baby appears to be coming out feet first, it is turned (*wawali*) before delivery, by external digital manipulation of the abdomen.

845 183 Delayed childbirth or prolonged labor pains (*yalu lakuia*) are believed to result from the woman's having copulated with another man after she became pregnant by the blood father of her child. When relatives hear of the hard labor, they gather about the parturient woman and urge her to confess (*titiu*) all her sexual sins (*yola*). She is expected to confess in great detail from the first to the latest sexual irregularity. Only then can the child be delivered. An unmarried mother is also expected to confess all her sexual irregularities, giving the names of all the men with whom she has had intercourse, together with a list of all other sins she has committed. Confession is followed

845 with physical treatment. Formerly, a medicine man (*tangata yila*) was consulted. He diagnosed the case, then went to his god house, performed the pigeon-calling *lupe* ritual to his god, and received from the god advice on the treatment of the trouble. The god's advice seems to have been of a stereotyped nature, the suggestion that the medicine man return to the mother and give her several smart slaps (*papakinga*) in the small of the back at frequent intervals. Today this procedure is followed as of rote. The parturient woman is not allowed to swim, but she is encouraged by her attendants to get up and walk about in the hope that the gentle exercise will encourage delivery. If this has no effect, *niu kalokalo* is prepared and given to the mother to drink: the grated flesh of a young nut is mixed with the liquid of the nut. The patient drinks about one pint at a time, repeating the dose at intervals if necessary. This medicine (*lakau*) is considered slightly laxative and is also supposed to cool the blood. Another recommended medicine, also taken at intervals, is coconut cream mixed with the expressed juice of pandanus keys. No other method is known to hasten delivery or ease the pain. Neither chants nor genealogies were recited to assist delivery.

844 Pukapukan theory is that children born during the night come out head first, and those born during the day come out feet first, in spite of the efforts of attendants to change the position of the child. No explanation could be offered for the case of a child recently born during the day with its head first. A day-born child is reputed to have a short expectation of life, it is likely to die even before it starts to walk. Apela, a young man rapidly making a name for himself as a baby specialist, was in attendance at the birth of a child one afternoon, the third to be born to the parturient woman, the first children having been still-born. Labor was not prolonged. After one *kokonongo* (exertion of pressure) attendants saw the infant's head appear. The child did not come out. Five minutes later, the head again appeared, but still the baby did not come. After a further ten minutes of labor, the child appeared feet first, and was thus delivered. Apela plainly felt that the child would not survive infancy, because of its inauspicious introduction to the world.

845 It is related that formerly the birth of a child later to become a man of supernormal strength, caused the death of the mother. The child sprang from the womb with such force as to injure fatally the mother's internal organs. Thus were born Watu-manava-
773 nui (p. 379), Kui, and some of Kui's descendants (1).

When the child has been delivered, the blood is massaged into the cord (*pito*) and along the cord to the navel (*pito*) of the child. Without waiting for the expression of
844 the placenta (*wenua*), the cord is then cut (*kokoti*) by the male attendant or the father with a sharp *ruluyi* shell about 5 or 6 inches from the umbilicus, in no prescribed manner. A slip noose is made in a short length of sennit fiber (*pulu kawa*), slipped over the end of the cord, and passed to a point about 2 inches from the distal end. The cord is not folded back. The noose is pulled tight and knotted with half hitches.

The placenta usually comes away almost immediately without any difficulty. Mrs. Henry reports no failure in the expulsion of the placenta during the seven years she has been in Pukapuka. But should the expulsion of the placenta be delayed even as much as one half hour the parents confess to attendants any sins they have committed. Confession procures immediate expulsion.

844 The placenta falls into a hole (*lua*) previously dug beneath the mother. Placenta and cord are immediately taken by an attendant to a section of the beach owned by the
824 father's paternal lineage and buried in the ground. Clothes badly soiled in parturition may also be buried in the same hole. A *puapua* tree (later to be used for a canoe), a *puka* tree (the leaves to be used later for talo fertiliser), or a coconut tree is planted over the hole. Such a tree is referred to as *te wenua o Mea* (the afterbirth of So-and-so). But informants suggested no connection between the life of the tree and the life of the child.

844 The parturient blood (*toto*) is tapu. It is allowed to drop into the hole under the mother which is finally covered with sand but not concealed in any other way. No rationalization could be obtained for the belief that the blood is tapu, nor were any con-

844 sequences enumerated that would follow if this blood came into contact with the clothes of attendants.

Care of the Mother

The delivery completed, one or more attendants take care of the mother. The others look after the child. The mother's head was formerly covered with a piece of *welo* bark as soon as the child was born, in order to prevent her hair from falling out, a precaution not adopted today.

The mother's abdomen is massaged by her husband or other male attendant, who
presses out the blood. Then the mother stands and walks to the beach supported by
attendants. No portion of the beach is reserved for use in confinement. The mother
wades into the shallow water, sits down, and expresses blood by exerting downward
pressure on her abdomen. She remains only a few minutes in the sea, and then returns
to the house, seating herself on coconut husks arranged to provide a comfortable seat.
Attendants apply pads of coconut fibers, which are kept in position by a strip of *lauwilu*
fiber, called for this purpose *tu*, passing first round the waist, then down over the pads
846 between the legs, to be tied in the middle of the back. For the mother's comfort and
support, a maternity band (*pale manava*) is passed round the abdomen and tied tightly
853 at the back. This is generally not applied until the second day after delivery. It is
not made in advance of the confinement, but is plaited by a female relative of the mother
soon after delivery.

The mother sits with her legs folded under her, her knees propped up about 4 inches with coconut husks. This is believed to ease the flow of blood. With her arms tightly folded under her breasts, she presses upwards to hasten the flow of milk. In this position, called *kokowi* (to be cuddled up), the mother sits and sleeps for five nights and five days. She may lean back against a wall post or the house frame, but she may not lie down or release her tight hold on her breasts. She is allowed to stand and leave the house for the purposes of evacuation, but must continue to hold her breasts tightly. There is no prescribed place for her to evacuate; the blood in the feces is not considered tapu. At the end of the five night period (*lima po*) the milk will have begun to flow, and the mother may release her arms (*wuke na keke*, expose the armpits). She takes up plaiting and other sedentary activities, not fully resuming active work until ten or more days have passed.

Care of Infant

844 As soon as its cord is cut, those present inquire as to the sex of the new-
831 born child, "E tama wea te tama nei?" (What child is this child?), and the
attendant announces, "E ule (e wu) te tama nei" (This child is a penis, or a
192 vagina). The terms *ule* and *wu* to denote the sex of the child were for-
merly commonly used; a father, asked the sexes of his children, might reply:
"I have two *ule* (sons) in my family, and three *wu* (daughters)."

844 The child is taken to the sea and washed. Then it is taken inside the house, rubbed
with oil and wrapped (*laulango*) in soft pandanus mats. It is immediately fed with
coconut cream (*lolo*) in order to loosen its bowels. Later it is placed beside the mother.
853 For at least two days the child is fed by women of the house on coconut cream when-
ever it cries. When the mother's milk (*yua wu*) comes, the child is immediately given
846 the breast (*wu wu*). Should the milk not flow by the second day, the child is fed on
lolo until it does flow. Informants could recall no case where milk did not come by the

853 end of four nights after delivery. They said a child was never given to a woman other than the mother to be nursed.

846 Twice daily, morning and evening, the infant is bathed either in the sea or in fresh water, and then rubbed with coconut oil. When the cord falls off, coconut oil is spread on the navel. If the navel is sore, a *puka* leaf may be placed over it and tied with sennit fiber. The child is kept wrapped in a soft kilt or in soft pandanus mats.

851 There is no difference in treatment for the boy and the girl. No public announcement was made of the birth of the first-born child. Birth customs were the same for members of the chiefly families as for the ordinary populace.

845 A prematurely born child (*tama yuatia*), if it is born alive, has all the usual care devoted to it. Jealousy of her husband on the part of the mother is believed to cause the death of a premature child; her bad heart (*ngakau kino*) kills the embryo. A still-born child (*tama na mate i loto o te manava*) is considered tapu and must be buried in the appropriate cemetery, no matter how immature, deformed, or mutilated it may be. Not to bury the child with care would render the mother unable to bear another child. Such children were not named before burial.

[847] Infanticide is unknown today; there is no record of its having been practiced in earlier times.

Twins (*wayanga*) are extremely rare. No ideas are entertained about their desirability. There is no formulated belief as to which of twin children is to be considered the older. Most informants agreed that the first-born would rightly be held the older of the two, though a minority felt that the larger child, irrespective of the order of birth, should be considered the older. No beliefs are held as to the magical powers of twins, nor are any special abilities attributed to them.

PATTERN VARIATIONS

844
517 Extremely realistic attitudes toward childbirth are held by Pukapukans. No sense of mystery surrounds the event. It is considered interesting to the whole community, as natural as any other fact of life. Anyone who feels inclined, man, woman, or child, has the fullest liberty to be present. Long hours of waiting are helped along with gossiping, joking, and laughter, while the children play about until late hours of the night. But, though the patterns of childbirth are firmly fixed and can be given by most informed adults, nevertheless in specific instances all sorts of confusion and inefficiency may be displayed, some procedures being forgotten, others performed out of order. Each birth is unique in its emotional overtones. 845 A child may be born under matter-of-fact circumstances with hardly a person in the village aware of the fact. In contrast, a birth was witnessed in which the child was a long time being delivered, all those present becoming angry with the par-

845 turient woman because she would not help by confessing her sins, the final arrival of the baby finding all present quite unprepared:

> The patient was a young unmarried Ngake woman, in severe labor. She was a *tamaine wou* (new to childbirth). Sitting outside the house at about 7 o'clock in the evening on some low, flat blocks of wood which were covered by a bundle of copra sacks, she was bracing herself by pushing down with stiff arms on coconut husks covered by mats piled on either side. She was assisted by five other women, her mother, her older sister, and three relatives. Other people came and went. The sister sat in front supporting the patient's feet under her legs, which gripped the patient's knees and held them tight. The other women held her limbs, her knees or legs, wherever there was room. From time to time the patient's father and classificatory brother came and supported her back, pushing down on her head, shoulders and back. When the labor pains came on, everyone present called out loudly: "Kokono, kokono ke ongo, kokono ke to!" (Bear down, bear down till it aches, bear down till it falls!) Everyone who could reach a hand to the woman gripped her limbs or body and pushed her legs downward and inward to her body, taking care to keep her legs well apart. Some pushed vigorously on her head and shoulders. At times there were at least ten persons all pushing parts of her body and calling to her to push the child out. She was accused of being afraid to press down and was continually scolded for not telling her attendants when the pains came on. The crowd not only remonstrated with her but also with each other, demonstrating in turn how the pushing should best be done and what type of groaning and grunting best helped the act of bearing down. Men made witticisms at every opportunity. Children became sleepy and drifted off to their homes. Gradually the crowd dispersed.
>
> In the intervals between pains, one of the men or her sister sat behind the patient to hold her shoulders and support her back. For the rest of the time her back was unsupported, for she had been made to sit just far enough away from the framework of the house to be unable to lean against the house walls. She occasionally rose and walked to the beach, supported by her sister; her mother usually remained behind, giving those near by an opportunity to shout to her for not helping. Standing up brought on mild labor pains. The patient's hands and arms became very tired from leaning on them so long, but no change of position was suggested. She would squat low on her legs however or sit on her sister's knees for a change. Mosquitoes began to worry her until one of the attendants thought to fan her. At about 5 a.m. she went off to sleep.
>
> In the morning an old woman of Loto who was reputed to possess special abilities for speeding up delayed deliveries arrived and everyone became noticeably more cheerful. She made up some special remedy for the patient, who refused to drink the rather muddy looking liquid. Later she yielded to pressure and swallowed several gulps. Then she was moved to a shady place on the beach under some coconut trees. The medicine woman placed her hands on the patient's abdomen and shook it up and down; she also exerted pressure with her finger tips on the abdomen in several places. Each time the patient pressed down she had vomiting fits, so she refused to bear down as much as the attending group thought necessary.
>
> [517] There was a constant coming and going of people at this time. There had been a death in Yato early in the morning and the group was constantly changing as women went off to attend the death ceremonies, or returned from them bringing all the news. Children played round the group on the beach. When they became noisy, they were ordered away to play elsewhere or told to go to Yato to see the death.
>
> Noon came with no sign of the baby. The women decided that the patient should confess her sins as the only remaining method of speeding up delivery, but she would say nothing. Soon it started to rain and the patient was removed to the veranda of the house. She drank coconut liquid and ate *uto*. About 4 p.m., after repeated urgings to confess, the girl broke down, burst into tears, and in a low voice interrupted by sobs, talked freely. One woman said she confessed to having sinned against her mother, but

845 another said the girl had cried she was too weak to strain any more and could not bear the child. Her mother and sisters were sobbing violently, and all the women had tears in their eyes. Later all cheered up, ate *uto*, and then the patient fell asleep.

At about 6 p.m. the patient, in severe labor, crying out with real anguish, was sitting on the knees of an old man, attended in front by her mother and sister. The two women were pushing on her body so strenuously that when the child suddenly appeared they did not realize it. A girl among the observers cried out, "Na to!" (It's fallen!). Then everyone, men, women, and children, began screaming with a deafening uproar. Each person shouted just what should be done, but no one moved and the child lay on the ground where it had fallen. The sister jumped up and began to run to and from the house, until she realized that fresh water was the first thing needed. She ran off to a well close by on the beach (nothing had been prepared for in advance) and came back with water which the parturient's mother put in her mouth and spat out several times over the baby's head as it lay on the ground, to ensure that it would open its eyes. The sister rushed to the house and came back with a spool of thread, which was what the crowd was now screaming for. She handed the spool to a third woman near by, one of those who had been shouting loudest, but this woman refused to take it, saying she did not know what to do with it anyway. Then the sister ran back for a pair of scissors, and finally the patient's mother cut the cord and tied it with the thread. Then she picked up the baby and started off to the beach, but she was recalled by the shouts of onlookers, who told her to care for her daughter. She gave the infant to her other daughter, who sat with it on the veranda of the house. Everyone wished to know whether it was male or female, but the girl was fearful of uncovering the child, now wrapped in rags. Finally she turned the rags back, mistook the cord for a penis, and said it was a male child. Noticing the mistake, she looked a second time, and announced definitely the child was female.

Meanwhile the old man massaged the new mother, and the placenta came away. The baby's grandmother helped the mother to her feet and supported her to the beach. When the grandmother stooped to pick up a comb she had dropped, the mother tottered and would have collapsed had someone else not run to her support. When she got to the beach she was washed as far up her body as her navel, was given a change of dress, and made to sit down on the beach upon a pad of coconut fiber. She commenced to hold in her breasts tightly, but was allowed to lie down on a mat and rest for a short while. She was given a drink of warm coconut liquid while the men dug a hole on the beach and buried the placenta and cord. The infant had opened its eyes and moved its hand to its mouth. It was wiped with soiled rags and then covered with a piece of rag that its mother had been using all day as a handkerchief. The sister opened a mature coconut, scraped some flesh into a cloth, which was squeezed into the mouth of the child by the grandmother. Meanwhile the mother was taken inside the house. The grandmother continued to hold the baby in her arms all night, feeding it occasionally with coconut cream. Next day, the mother was sitting up, tightly clasping her breasts, while the grandmother was starting to make a mat for the baby. The child lay face downward on a pillow close beside its mother.

FEASTS AND NAMING

851 The birth of a child introduces a new member to the various social groups
[553] of the community. This introduction is marked by the holding of two feasts and by the naming of the child:

574 Immediately upon the birth of the child, the bilateral kin groups of the child's parents prepare food, first for the *puaki* feast. This is a small division of talo and fish,
612 occasionally also of pig, arranged by the father for all those relatives and friends present at the birth of his child. It constitutes payment for the services of those attending the

851 mother during confinement; others are included for showing interest in the family's affairs by being present at the time of delivery. If the child is the first-born (*uluaki*),
574 the *puaki* feast is followed several days later by the *wuele* food division. If the *uluaki* is a male child, the division is on a bigger scale than for a first-born female. The divi-
612 sion is held five to ten days after delivery, usually coinciding with the time that the mother is allowed to open her arms after her five nights of breast confinement. In an undistinguished family, the food division is among the bilateral kinship groups of the parents and may be referred to as a mere *toumomayanga* (eating). For a more distinguished family, one that ranks through status or wealth, the *wuele* may include a food division for every family on the island. In such families, *wuele* feasts may be held to mark the arrival of subsequent children, especially the birth of a male child if the previous children in the family are female.

553 The father generally chooses the child's name (*ingoa*) which he announces at the birth feast. But the mother or other interested parties may also give the child a name (*tapa te ingoa*) or names. The child may thus be known by several names in different groups.

The choice of a name may be determined by a desire to refer to or honor the special skill or profession ([illegible]) of the father. If the father is a skilled canoe builder, then he will name the child with reference to canoe building or parts of a canoe. The name of an ancestor, or else a reference to some incident or event associated with this ancestor may be chosen. A name may also be taken from a younger brother or sister of the father who is childless or may refer to some contemporary event or person affecting the island, a tidal wave, for example, or the presence on the island of white visitors.

[75] If the first child dies, the second child may be given the name of the dead child. If the first-born dies after the birth of the second child, the name of the second child may be changed to that of its deceased sibling. No idea is held of the reincarnation of the soul of the dead child in the birth of the second child. The feeling seems to be that if one thinks so highly of a name as to give it to a child then if the child dies the same reason for giving the name holds for the second child. If a man wishing to hand down to posterity his skill as a carpenter, names his child accordingly, then if this child dies, the same desire operates when he comes to name his next child, so he gives it the name of the deceased. A child may similarly be renamed for any close relative, not a sibling, who dies during its childhood. A feast was formerly held to mark the assumption of the new name, and gifts were given the recipient of the new name.

551 The name or names given a child at birth remain his names throughout life. Later on, however, when a boy joins a young men's house (*wale lopa*) or a girl a girl's house (*wale tamawawine*), he or she is given a new name by his or her companions in the house. This name partakes of the nature of a nickname, or at least is the name used only by one small group within the community, whereas the birth name is the name whereby the individual is known to the community at large. This was well brought out when collecting genealogies.

There is no sex distinction in names, and no class of words set aside for exclusive use as personal names. According to the choice of the parents, any word or words, taken from any sphere of discourse or any content whatsoever, may be applied to a child as his name. I have not considered it necessary to present lists of personal names. As is evident from a comparison with genealogies, old Pukapukan names survive today with a tenacious persistence. Western and Biblical names rendered in Pukapukan, however, have a certain popularity. Such names as Miti Moa (derived from Mr. More, a missionary), Miti Mali (derived from Mr. Murray, a trader), Moni Kala (brown money, gold), Apaunu (from the English "half pound") are examples of modern names and show both an originality in naming for which the Polynesian may well be proud and an appreciation, however mistaken, for the symbols of an allegedly superior culture.

551 The stories and traditional history give a good indication of the type of preferred name in former days.

INFANCY

846 For the first few days of its life, the infant is held by female relatives 854 most of the day and night. It is wrapped in mats or rags, and thus protected from sudden temperature changes. When it is put down to sleep, it is usually placed on its back. At night it sleeps beside its mother. It is given 853 the breast whenever it cries. The mother sits while nursing, the child cradled in her arms. Feeding is leisurely; the child is not hurried, but allowed to satisfy itself fully. Breasts are alternated. When the child is older, it is held upright, its feet resting on the mother's lap. Children older still adopt any attitude in feeding from the breast that suits them. To suck the breast is *mitimiti*. After a month, the child may be fed soft coconut flesh; and in the second month, baked coconut cotyledon as well. These foods are fed the 854 child before it is given the breast and allowed to feed to satiety. The infant, though never left alone, is rarely carried about. The mother at first [857] remains inactive. Later when she goes to the talo beds, she leaves the infant in the care of an older child or female relative within the house. It will be carried about only where the guardian is a young girl who cannot resist going to the beach to watch a group of her companions playing games, and carries the infant along with her, cradled in her arms. During much of its waking life the infant is fondled and caressed by both male and female relatives and friends of the parents.

As the infant gets older, it is gradually stripped of coverings, and lies naked on its mat. It soon learns to sit up and then spends much time lying, sitting, and wriggling round beside the mother while she is at her work. At this tender age, the child is good humoredly cleaned whenever it soils itself, formerly with coconut husk, today with a piece of rag. This duty is performed by any older person, male or female. Besides being fed when hungry, the child is always given the breast to comfort and pacify it whenever it is frightened or in pain.

852 There are no special customs pertaining to teething. The child is given no object to suck or bite on other than the breast as a comforter. Special instances of children sucking objects were recorded (2). Mothers agree that children suck or place in the mouth whatever objects they can get in their hands, but during the infancy period, there [152] seems to be relatively little finger, thumb, or toe sucking.

Adults pay much attention to raising small infants by their arms so that they rest on their legs and are able to kick a solid surface with their feet. As the time approaches for the child to begin to walk, no assistance is given. The child starts naturally by pulling itself to its feet and then taking a few steps clinging to posts or railings. It is encouraged by its mother who insists that it should come to her, and comforts and pets it whenever it falls. The method reported for Aitutaki, of standing the child in a pit and burying its legs with earth as a method of encouraging the child to stand, is unknown in Pukapuka. Mothers say, however, that they occasionally *lomilomi* (press on) the legs of the child during its bath to strengthen them.

852 175 I have no data on how the child begins to talk. Old women say that the first words that the child utters are "upe upe" (meaningless). It was noticed that children learning to talk tended to repeat words, phrases and sentences used by older children in their presence. Baby talk is never used by adults when speaking to an infant or child. Mothers could give no vocabulary of words generally mispronounced by children in their efforts to speak, and none was noticed. The only abbreviation that mothers could think of was the word "tiko" instead of "titiko" (defecate).

857 The child is mainly cared for by its mother. The father has no specific functions to perform. He is no less sympathetic and lavish in his affection for his child, and cares for the child whenever it is necessary or convenient. There is no antagonism or conflict between the two parents as to the care of the child, which is looked upon as belonging equally to both parents who harmoniously tend its needs. Older siblings take care of the child only when the parents are absent and then only for short periods.

WEANING

862 Careful analysis shows that there are two types of treatment in the weaning of the child:

The first is used if the mother becomes ill, or if her milk fails, or if she becomes pregnant while the child is still feeding at the breast. In such case, the child is suddenly and immediately removed from its mother's presence and care, and placed entirely in the care of a feeding parent, usually father's sister or mother's mother. This process is called wakamotu (to break off). It is complete and absolute. The feeding parent nurses the child day and night, feeding it coconut water from a coconut shell, or grated coconut flesh and grated talo. She carries the child about most of the night, which is considered the most difficult time to keep the child pacified. Mothers say that this weaning process takes a week in the case of the most easily weaned child and as much as two weeks in the case of a fretful or difficult child. Whatever the length of time, the child is kept completely separated from its mother.

862 856 866 The second method of weaning is a more gradual process. The child is taken to feeding parents in another village and left with them for a day at a time. It is fed coconut and talo. The feeding parents fondle it and try to keep it happy and satisfied without its mother. This occurs once or twice a week over a period of two months, the mother meanwhile trying to accustom the child to solid foods, feeding him coconut and talo before giving the breast. By the end of these months the child is walking, and is encouraged to identify itself with the activities of its siblings, to play away from its mother as much as possible. More and more the mother refuses to give it the breast at its demand, so that finally weaning is accomplished by a series of gradual steps in which other interests and other foods gradually assume an importance in the child's mind, the food gaining status and prestige through being associated with a group of elders with which the child definitely wishes to be identified. It is probable that hesitations over taking the steps of the weaning process are overcome also for the child by ridicule directed toward it by his elders.

EDUCATION

871 868 Formal education of the child is markedly absent in Pukapuka today as formerly. There was no institution comparable to the "house of learning" of other Polynesian communities, nor was there a dichotomy of education, formal or informal, based on class distinctions. All the child needs to know

871 868 in later life is absorbed from his association with his elders in their everyday crafts and tasks. Boys and girls learn to climb coconut trees, and both accompany their elders to the talo beds where they learn talo culture. While the boy associates with his male elders and absorbs a knowledge of fish and fishing methods, the girl stays with her adult female relatives and learns the preparation of foods and the plaiting of baskets, food containers, mats, and clothing. No one particular relative is more concerned with the education of the boy or girl than any other relative. Due to the vagaries of household membership and adoption, a child will learn from any related adults in the household.

868 962 It may well happen that where there are no boys in the family, or where there are no girls of appropriate age, the roles of the boy and girl will be for the moment reversed.

857 Thus, Pita, the oldest son in a family of six children, performs more household tasks than most other boys of his age (10 years). His daily duty to feed the pigs is one usually performed by adults. On Saturday, the great day of the week for food preparation, Pita regularly grates coconut for his mother's Sunday talo pudding, doing this in the morning while his mother and his young sister are away in the talo beds. Similarly, because there are no boys in her household, the little girl, Akakina, often accompanies her grandfather when he fishes from his canoe in the lagoon, helping him to bait the hooks, and takes a boy's share in the fishing activities of the household.

868 857 The use and control of fire is learned very early. Almost from the time they start to walk, little children carry burning coconut spathes from one cook house to the next.

372 One woman sends her grown daughter to get fire. The girl is accompanied by her brother, just learning to walk. When she lights the torch, he cries out for it. She gives it to him, and holding it at the proximal end, with the distal end resting over his shoulder, the little boy toddles home with the flaming brand. Three-year-old children are ordinarily sent off to get fire. They confidently put their piece of dried leaflet in any fire that is already burning, wait till it ignites and then stroll home very nonchalantly, carrying the torches over their shoulders or waving them in the air to produce a shower of sparks. The children have certainly no fear of fire and show great confidence and skill in its use.

828 In the more skilled men's crafts—the making of hooks, houses, canoes, nets, and fishlines—a boy learns today as he learned in the past, through watching and imitating an expert, either someone in the same household, often his grandfather, or one of the older men of the village group. The older men, being largely released from the necessities of daily fishing, have time for crafts. An interested boy or youth watches the older person at work, and is given at first simple tasks, later graduating to the more difficult skills under the tutelage of the old master. During the days when a village is preparing for a fishing contest, the boys and men sit about together and make or repair in common the fishing gear to be used for the contest. In this way the young people learn all there is to know about the making of fishline, anchor lines, and fishhooks, and are told whatever else of the arts

868 533 245 of fishing there is in tales and chants. Similarly, in the learning of the old chants and songs, practices are held before some village contest, and the village group of men and women, young and old, sit up throughout the night repeating time and time again the songs and chants which are to be sung at the conclusion of the contest. At the present time, when the villages go to the reserves to make copra, the opportunity is taken to alternate nights devoted to the practicing of chants with the nights devoted to the customary hymn practices.

PUBERTY

304 No surgical operation or physical manipulation was performed on the Pukapukan boy or girl. A foreskin naturally stretched back from the glans was considered a shameful abnormality (*luma*) because it gave the appearance of circumcision. It was a matter for joking among the girls and caused much sorrow to the boy affected. One reference only to circumcision occurs in the folk tales (p. 54).

841 864 The occurrence of the first menses is spoken of as the opening or piercing of the body (*na pu*).

145 881 Though her mother does not tell her in advance what to expect, a girl is nevertheless well informed from discussion with her older girl friends. When she finds herself menstruating (*toto*) for the first time, she says to her mother, "I aku na toto" (I am bleeding). Informants say that a girl is naturally frightened (*matahu*) or ashamed (*wakama*) when she first discovers she is menstruating. Cramps are common in both stomach and back. Periods range in length from three days to a week. The menstrual pad (*pulu tautape*) consists of several coconut husks pounded soft and tied with a piece of coconut fiber. Each pad is disposed of in a separate hole dug on the beach for the purpose. There is no fear of the blood. The method of disposal is merely a convenient way of getting rid of soiled objects. A woman does not have sexual intercourse during the menstrual period, on pain of becoming ill from having the blood "pushed up into her chest"; but there is no tapu on her activities or contacts with members of the household. No physical explanation is given for the facts of menstruation. If a young girl commences to menstruate before her mother considers that other signs of physical maturity warrant it, the mother is angry with the girl because this indicates that she is already having a love affair with some man or is, at least, already interested in the opposite sex. Molingi said, "Girls who do not interest themselves in men do not start to menstruate until later on when they are older and ready to marry. Girls who menstruate too early have an undue fondness for men."

841 Two types of physical therapy are used in cases of menstrual trouble. For menstruation prolonged beyond the average four days, the blood is washed away from the pudenda, and the parts bathed in hot water. For delayed menstruation marked by pain, the body is bathed in cold water, either fresh or salt, to cool off the body; and the abdomen is then pressed (*lomilomi*) until menstruation commences.

886 [843] Informants could not explain the recognized connection between the cessation of the menses with pregnancy, nor could they explain the physiology of the menopause. This is referred to as the closing of the blood flow by the

11 Beaglehole & Beaglehole E-5 (1934-5) 1938 Pukapukans

886 phrase *kua punia* (it is closed). According to Molingi, old women who have
145 had all the children they desire simply stop (*mutu*) having further pregnancies by making up their minds that they do not want them. Informants said that the period of the menopause involves no physical or mental sickness, nor even inconvenience. A woman passes through the menopause as easily and naturally as the average woman bears children.

ACQUISITION OF ADULT STATUS

561 The rite by which the adolescent becomes an adult is known simply as
881 *wakatane* or *wakawawine* (to become a man or woman). It symbolizes to
864 the community the sexual and social maturity of the individual. Pre-adolescent boys and girls formerly went naked. Though they indulged in no formal sex life, they acquired, through general education and sex plays, full knowledge of sexual behavior. When they have decided the time of maturity has come, the parents of the child formally report the matter at the village
561 meeting. If a boy should try to wear a malo or a girl a kilt (*titi*) before the
881 parents consider them mature, the parents would tear the garment off and
291 make the young persons wait. The parents judge maturity by the secondary sex characteristics or by comparison with the other children of the same birth class (*tai tangata*).

561 The occasion for the *wakatane* or *wakawawine* rite depends on the opera-
881 tion of the *tai tangata* system. When it is decided that certain members of a particular birth class are mature, all the boys and girls born in the same six-months period are also considered mature. Informants said that formerly boys and girls would be about 20 years old before they were judged ready to become men and women. If this figure is valid there has been considerable change, for children now become adults at the age of about 15 years. At the time that one group of children attains adulthood, the parents of the next birth class begin to make clothes for their children, six or seven pandanus malos for the boys and many kilts for the girls.

The adulthood rite was generally held during the first new moon of each six-months period. Announcement was made in each village of the names of the children graduating. Without ceremony and in their own house, the parents then formally dressed these children in malo or kilt. This is known as the *tau malonga* or *tau titinga* (putting on malo or kilt). One informant from Yato village said, however, that the men gathered for the *tau malonga* in the reserve of Niua, bathed the boys, took them to a watch house in the reserve, called for this occasion a *wale liakinga malo* (house for tying on the malo), and there dressed them in their first malos. No women were allowed to be present. This perhaps constitutes a local village variation on the more customary practice.

Girls had no further duties or activities to perform after they had been

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561 dressed in their kilts. They remained at home and helped with general
881 domestic tasks and in the preparation of the food to be given each day to the old men (*tupele*). The boys, however, went to the reserves on each of two days to get nuts.

881 In the big canoes of the old men all the graduating boys from the three villages
526 went together on the first day to Motu Ko, on the second day to Motu Kotawa. At the reserve they got enough nuts to fill their canoes, at the same time being permitted to eat all the reserved foods they wished: nuts, birds, talo, crabs, and other foods. In the evening the boys sailed the canoes back to Wale. As they neared the beach at Wale, the champion wrestler of the graduating group stood in the bow of the foremost canoe. A champion wrestler from the young men's group (*lopa* or *mulivaka*) stepped forward on the beach. The wrestler in the canoe performed the *lupe* ritual (p. 322) to challenge the man on the beach, who then made *lupe* in counter-challenge. When the canoes grounded on the beach, the graduates' champion leaped ashore, and the two wrestlers engaged on the beach before the assembled people. Several bouts might be held between graduates and the men's groups. The graduate champion who defeated the village champion gained great renown from this encounter and the right to call himself champion of the island. The evening wrestling on the second day concluded the rite of adulthood and the boys were now considered young men.

884 After attaining adulthood young men or women were eligible to marry, to receive adults' food shares, and to perform all the duties of adult members of the community.

YOUNG MEN'S FISHING GROUP

561 Having become adults, the young men of a *tai tangata* (birth class) next
886 graduated to the *tanganga* fishing group. Some informants said that the
[884] boys belonged to this group for two years, but membership of the *tanganga* group was normally for six months, until the boys of the next birth class were ready to take their place. If, however, the succeeding group was small, the preceding group would continue to help with the *tanganga* fishing until successive graduating groups became sufficiently numerous to enable them to retire from the daily fishing expeditions.

The *tanganga* fishing group was arranged at a meeting of the old men (*tupele*) held immediately after the adulthood rites were finished. Some informants thought that all the new adults went fishing together in one or more canoes, depending on the number of graduates. Others believed that each boy chose a crew from among his male relatives so that, if there were seven boys in a birth class, there would be seven canoes fishing each day. Probably this second belief is mistaken. But if there were only two or three boys in a birth class and if it was impossible to draw on preceding age groups, these boys would call on their relatives to make up a crew. The nominal leader of the *tanganga* group was the member of the birth class after whom the birth class was named. He was responsible for the conduct of each day's fishing operations, arranged for fishing gear, canoes, and bait, and attended to the handing-over of the fish to the old men.

The *tanganga* fished for such deep-sea fish as bonito, turtle, albacore, and other *tau watea* (large deep-sea) fish. They went out over the reef each day it was possible to make the passage. After catching enough fish for the

561 226 day (one or two *palo* or albacore would be sufficient) the boys returned to the village and took the fish to the old men, who divided them primarily among themselves and secondarily among the people of the island if the catch was large. Reef fish, rock fish, and other non-deep-sea fish caught by the *tanganga* were kept by the boys for their own food. The old men gave some of the talo they received each day in the form of gifts and contributions from the old men's households to the *tanganga* boys to eat on their fishing expeditions. It was this food which the graduated girls helped the women of their households to prepare. After returning from fishing, the boys were free from formal duties for the rest of the day.

SECLUSION

261 881 Some time after a group of boys and girls had attained adulthood a paternal lineage (*po*) might decide to hold a *kaitau wakayawi*, an institutionalized seclusion period intended to fatten their bodies, whiten their skin, and so make good marriages for the children of the *po:*

> 581 826 613 [352] Any number of boys and girls, generally from one to six from a lineage, might be selected. There were separate houses of seclusion (*wale kaitau*) for each sex. The *wale kaitau* (any house chosen for the purpose) was made quite dark by covering the walls (*puipui te wale*) with several layers of overlapping wall sheets and mats. The floor was first covered with mats, then with *pulaka* and *lau kotawa* fern leaves over which coconut oil was liberally spread. The secluded children were made to lie on the leaves, their bodies and heads completely covered with mats. They might eat, lie, or sleep in any position provided they kept well covered. They were given especially fattening foods in large quantities. The food for the following day was pushed into the house at night under the lowest wall sheet so that no light might leak in. Two male relatives guarded the boys' house, and two female relatives the girls' house. The guards (*taute*) remained continuously outside the house to see that no prowlers entered. Accompanied by a guard, the children, covered tightly with mats bound with sennit, left the house at night to evacuate. The beach they went to was referred to as the *waku wale*, which was also the special term for defecating used only in reference to *kaitau* children. The guards made sure the children did not stray abroad but returned to the house immediately. The young people were kept thus in seclusion for one moon.

When the house was opened up, the children, fat and fair, were taken to the beach to bathe. After being inspected by the members of the paternal lineage, each girl was dressed in two kilts, each boy in a new malo. Decorated with pearl-shell and flower ornaments, they were paraded through the village for all to admire. All the people came to see their beauty, expressing admiration in such terms as, "How beautiful, how fat, how fair", and wondering what men or women would be lucky enough to get such husbands and wives. Only a man who was a good fisherman and rich in nuts and talo could hope to get a fat, fair wife, and only a fat woman would be able to get a *kaitau* husband. The parade over, the girls returned to normal life with the expectation of making a desirable marriage. For the boys there was often a further ceremony (*kaitau lukipoko*):

613 884 788 When several paternal lineages had been holding a period of seclusion at the same time, the boys' parade took them to the god house of one of the lineages, where a *kaitau lukipoko* contest was held. Each boy of the home lineage knelt with his back to a post of the god house and performed the *lupe* ritual (p. 322), beating his thighs with his hands. When the people of the other lineages heard the boys at their ritual, they sent their own *kaitau* boys to the same god house. On arriving, each boy of the second group crouched down in the customary half-bent position, beating his knees and thighs, and, making the sound "br-r-r" with his lips, advanced to one of the kneeling boys. The two locked shoulders. The challenger tried to push the kneeling boy away from the post, while his opponent tried to push him over and still retain his position by the post. The boy pushed away lost the contest and retired. The winner of a contest might go to the help of another boy of his lineage still engaged. He helped his friend, grasping him round the waist from behind and pushing with all his strength so that their combined weight might overcome the opponent. Insofar as the opponent might also be supported, strenuous contests resulted. The *kaitau* group that vanquished the most boys of the opposing group won the contest for their lineage. The defeated lineage had to wait till a later *kaitau lukipoko* to avenge its disgrace. The struggle over, the boys returned to normal group life.

881 Informants were vague as to the significance of the *kaitau lukipoko.* It is likely that values besides the mere sporting ones have a place in its symbolism. The significance of its association with the god house where the priests were accustomed to worship the gods, and the employment of the *lupe* technique customarily reserved for putting the priest *en rapport* with his god, is obscure, and I have no cultural rationalization to offer other than my own speculation that the contest was originally a feature of religious initiation following on the initiation into manhood, which has been lost to the present generation of Pukapukans.

YOUNG MEN'S AND YOUNG WOMEN'S HOUSES

884 591 575 In everyday activities there is little difference between the life of the youth and that of the young adult. Young men and women are expected to engage more seriously in work, the boys fishing, the girls helping consistently with household duties. In the realm of sex they are now considered mature enough to lead sexual lives. For this and other purposes they might formerly leave the family house and live in *wale lopa* or *wale tamawine* (young men's or young women's houses) with companions of their own age and sex. It does not appear that these houses had the institutional character associated with the bachelor houses of Melanesian communities. There was nothing obligatory about membership in them. The way in which a young men's house might be formed was explained by informants as follows:

591 575 A boy or girl might invite one or more friends to come and live with him at his parents' house. Some parents might not object, as living in the house implied obligations to assist in providing food and brought extra food shares to the household. On the other hand, a parent might object to having several young men (*lopa*) or women (*tamawine*) around his house, especially if they were lazy, and would tell his son or daughter to go build a house elsewhere, where he or she could live with friends without annoying anyone. The house was built on any convenient site—on land owned by the

591 child, the parent, or one of the friends. The young men or women used their house as
a lounging and sleeping house while continuing to eat their meals with their parents, to
575 assist them in the general tasks of food getting. A parent who did not want his child
to leave home would tell his child's friends to betake themselves elsewhere.

593 For the most part, young men and women stayed at home, lived with
their parents, and assisted with the tasks of the family. A child who stayed
at home was a *tama pili matua* (child close to parent). A favorite child
(*tama wakaemaema, tama yele,* or *mayui*) was never permitted to live in a
young men's house, especially if the parents, wishing to make a good marriage
for the child, had gone to the trouble of graduating it from the house of
seclusion. On the other hand, wayward children were not hindered if they
wished to live with their friends. Residence in a young men's or young
women's house was continued until marriage or until vagaries of personal
choice sent the young person back to live with relatives. The present resident
177 agent in the interests of morality does not allow unmarried young people to
591 reside in young men's or women's houses, and this type of living arrangement
has been officially discarded.

CULTURAL ATTITUDES TOWARD SEX

582 Once a Pukapukan boy or girl has attained adult status, he or she is at
liberty to have sexual experience irrespective of marriage, which indeed
836 usually comes much later in the life of the adult and only when he is ready
to assume the specific economic responsibilities that marriage entails. It is a
831 matter of no importance that a girl or a bride should be a virgin. There is
no word in the language to characterize such a physiological state. Rather
has a woman who has borne a child out of wedlock by this act proved herself
able to bear her husband heirs to carry on his paternal descent line. A girl
for whom parents wished a particularly good marriage found a certain but
minor emphasis on the importance of preserving virginity, but this was more
a matter of preventing her from attaining a reputation for being promiscuous
than a matter of interest in her virginity. That the sacred maid
(*mayakitanga*) of the chief was barred from sexual intercourse of any nature
throughout her life was perhaps due to the religious functions she had to
perform and was, at any rate, exceptional.

833 For the ordinary girl there is nothing in Pukapuka approaching the institutionalized
rupturing of the hymen by an elder which occurs elsewhere
864 in Polynesia, nor is there any institutionalized instruction of the adolescent
in sex matters. Knowledge was obtained by the boy or girl through personal
experimentation with members of the opposite sex. Informants remarked
that a virgin who wishes to save her lover the trouble will digitally rupture
her own hymen before going to him. But this is a matter of individual
choice.

833 The cultural attitude is that the man is and should be the aggressor in
initiating sexual experience, the woman the passive agent. Molingi, the in-
836 formant consulted most freely about these matters, expressed the feeling of
cultural disapproval when she stated that most girls of her acquaintance are
bad (*kino*) because they are *wia eia* (run after men). She stated that some
of these girls have sexual intercourse before the menses occur, but they are
exceptional. Molingi distinguished between those girls who are really pro-
miscuous (*wia eia*) and those who have but one or two lovers. She attached
837 no moral blame to married men who cohabit with unmarried girls, but placed
833 all the blame on the girls. Whereas the term *wia eia* is theoretically appli-
cable to men, it is in fact applied only to women, which again indicates that
the man is the rightful aggressor. If the role is reversed by a woman, the
man is considered helpless and blameless; disapproval is reserved for the
woman, and no regard is paid to deviant personalities which may be unable
to conform to the cultural standard.

833 The story of Wanguna (p. 386) tells of a woman who led all the men of
the island astray through her aggressive sexual behavior and thus provoked
837 the wrath of the gods to send the seismic wave. Where historical narrative
notes that a man led the women of the island astray (story of Waletiale, 1),
there is no mention of the anger of the gods being directed against him,
even though he is eventually killed by a group of irate husbands. The
periods of license that sometimes accompanied the chanting and dancing after
fishing and wrestling competitions of former days were excused by some
informants on the grounds that it was invariably the women who became
worked up to such a pitch of emotional excitement that they would tear off
the garments of the men. This is commented on by passages in the chants.

831 The general attitude toward sex on the part of both children and adults
is that it is a pleasurable play activity. Save obscurely in the case of the
sacred maid, there appears to be no connection between sexual practices and
typical religious complexes, nor is there any association between ideas of
fertility and patterns of religious behavior. The word for copulation among
animals is the same as the common word applied to humans, *konikoni*.
Attention is frequently directed by adult and child to the copulation of
522 domestic animals, particularly ducks or chickens. A group of people sit and
watch the behavior of these animals, not with curiosity, but with an attitude
of sympathetic interest and a realistic appreciation of what is happening. A
typical comment made after ducks have copulated is the call to the male
duck: "Te mokola e, to ule ko tautau ki te kilikili (O duck, your penis is
dragging on the ground). Both children and adults laugh heartily at this
witticism.

831 Though in general there is no fear attitude associated with relations between the two sexes, nevertheless sickness may be transmitted from one

831 person to another in sexual intercourse. If a sick woman has intercourse
753 with a man she gives him her sickness because, in native theory, her secretions
(*vale wu*) enter into his internal organs by absorption through the penis.
833 Diseases that are spread in this way are mainly swelling in various parts of
the body, but pains in the stomach and other minor ailments may also be
communicated. A married couple with children rarely have intercourse
within the sleeping house, not because they object to the children's seeing
them, but because of the danger in possible contact of the child with secretions on mats, which would give the child illness and limb swelling.

834 Various terms are applied to individuals who show peculiarities in sexual
behavior. An impotent individual is a *tangata malueka*, which also means a person lazy or slow in economic activities. A man who changes mistresses frequently is a *tangata maka wawine* (thrower away of women). It is said of him: "I te wakapau wawine" (He is a woman waster or finisher). An over-sexed man or woman is *nio toto* (bloody teeth) or *kai vaka* (canoe eater). Of the promiscuous (*wia eia*) woman it is said: "Ko tuku wua i tona wu yaka yua" (She places her vagina at anyone's disposal to be poured into). A husbandless woman who runs after married men is *lakau taetae* (stick or penis gatherer). A man or woman who settles down after a period of freedom to a monogamous existence is described as *na wiu* (having had enough).

839 Perversions, in the sense of sexual practices that take the place of sexual
intercourse, are probably unknown in Pukapuka. This is without prejudice
to acts or feeling attitudes that may accompany ontogenetic character devel-
opment in the strict analytic sense but which, even if they occur, may not
838 properly be classed as perversions. There is no word in Pukapukan speech
to indicate homosexuality, nor could informants say that it ever occurred.
159 At present there is one youth in Yato village who is said to *wakawawine*
(be like a woman):

> Between 16 and 17 years old, he appears fully developed physically but has a rather
> 521 effeminate high-pitched voice. He wears men's clothes. He does not stroll about the
> village as do other young men who congregate first in one open house, then in another,
> 461 for gossip. He keeps very much to his own house lot, where he is often in the company of women. He performs general women's work, makes plaited and beaded objects, sews more than is usual for a male, and cooks. He also does a little men's work, fishing, nut gathering and husking, and sennit making. He occasionally wrestles with other men but does not participate in most sports. Peculiarities in his behavior are noticed by fellow villagers but not commented upon openly. He still attends school and is popular with his schoolmates. He showed the greatest possible reserve in our presence and we were unable to become friendly with him.

832 There is no evidence of the use of love magic. Informants with whom
the matter was discussed thought the idea absurd. Their attitude was that
830 it was not difficult for any man to secure a mistress; there was then no use
for special magical techniques. With their concept of sex as a play activity,

832 informants felt any woman is just as interested in playing as a man, and
833 apart from natural antipathies no difficulty arises in securing favors from the woman of one's choice.

832 The only account in the folk tales of what may be interpreted as the use
539 of love magic occurs in the story of an oversexed and greedy man named Vavaka, priest of the god Te Atua Vaelua:

> Vavaka was extremely fond of grated green nut flesh (*niu kalokalo*) and spent each day making large quantities of the food. This became a matter for ridicule by the women and girls of the community, who would pass by his door making fun of him and his food. Vavaka resolved to have his revenge upon the women. When night fell, he went to gather *nau, uetau, koupua,* and *tiale* flowers, brought them to his house, and made "the thing" for his god (*wui ake te mea a tona atua*). He gave the preparation (*wainga*) to his god and prayed: "O Vaelua, take you the spirit of the woman here, she is a difficult woman, a woman besides, who dislikes me. You take her to your fragrant isles (*o nuku hakala*) to tame her spirit (*wakalala i tona mauli*) so that your priest here may go and try to wake her by his shaking, and if she wakes not, then let your priest have intercourse with this woman." Later in the night Vavaka went to the woman. He enjoyed her and when he left he said, "Ongalonga!" (There, I have got even with you). On other nights Vavaka visited other women who had shamed him. Then he desired married women, and again he prayed to his god to take the spirit of the married woman and her husband to the fragrant isles, so that he could sleep with the woman without her knowledge. Vavaka finished his prayer and ran to the house of the woman. With his knife of *pala* jawbone he slit the mosquito net in the region of the woman's genitals and enjoyed her. Then he boasted as before, "Ongalonga e te tama kaungata" (I have got even with the difficult child). Then in after days Vavaka would sneer and taunt the women saying, "Even though you just walk on the land, my fishhook (for catching women) is large enough to catch you."

The magic employed in this story seems to have consisted of a gift of fragrant flowers to the god, the implication being that the god would lull the senses of the intended victim with the scent of the flowers, or else, more obscurely, that the god would transport the spirit of the victim to an island where the scents were as fragrant as the flowers. The lovemaking of Vavaka was crude and wild, but he was animated only by motives of revenge for ridicule cast at him.

831 A study of the chants (1) indicates that although sex is treated in
832 Pukapuka with extreme realism, nevertheless the sexual relation is not one of crude realism. Feelings of affection and beauty enter into relations be-
195 tween the sexes, and in the love chants (*hupu*) the composer is always at
[553] pains to indicate his feelings for his mistress by a variety of metaphors:

> The woman, for example, is compared to beautiful white pearl-shell fishhooks, she is as straight and beautiful as a perfect canoe log, she is as handsome as foreign people and as fair, she is as beautiful as the flowering buds of the coconut tree or the scarlet flowers of the [illegible] tree; her body is fat as the delicious albacore fish. Again, her skin is as smooth and shiny as the side of a new canoe adzed by the expert, the *tinea* marks on her skin are like the rows of morning stars, her eyebrows are fashioned smooth as the feathers of the tropic bird, the inside of her thighs is bright as the flash of lightning or the gleam of the moon, her voice is like the beautiful crying of the white "rat" (cat). Associations of the genitals of the man or the woman with beautiful objects

831 abound in the chants. The pubic hair is said to be soft and dark, like the feathers of the
832 tropic bird; it is smooth, black and indistinct like a grove of trees seen from afar. The
woman's genitals are compared to the inside of a well-made canoe, to delicious fish flesh,
195 to other symbolic objects of the environment. The penis is likened to a hot burning
sun, or to a beautiful gold-lipped pearl-shell hook which is entrapped by the jaws of a
fish. Some of these comparisons may appear far-fetched or slightly ridiculous to the
European reader, but there is no reason to believe that the Pukapukan lover does not
gain genuine pleasure from the association of lovemaking with objects which to him are
things of great beauty and give rise to aesthetic feelings.

INTERCOURSE

833 According to Molingi, sexual intercourse occurs equally by day and by
night. Most adulterous intercourse is by day. While a woman is at work, her
837 husband goes off to the bush on some excuse; while her husband fishes, a
832 woman goes to the bush, ostensibly to get talo, but also to meet a lover.
Before arranged meetings the lovers bathe, cover the body with sweet-scented
oil, and adorn themselves with sweet-smelling leis. Often they meet on a section of the outer beach after dark. To make a lover's bed (*lava*) among the bushes that fringe the beach, they strip coconut-leaf midribs from a tree, split them into two, and place the half midribs on the ground with the leaflets pointing inward, the midribs lying on the outside. Leaves of the *ngayu* bush or *kotava* fern may also be used for the *lava* bed. If lovers meet at the same place frequently, they leave there a coconut-leaf mat (*takapau*) to be used instead of the rough bed of leaves.

Informants knew of no physical stimulants which might be used for
heightening sexual excitement. Foreplay in the sexual act is described in
the love chants (1). These chants also give the most elaborate native terminology
for all phases of the sex act. The couple sit facing each other,
833 the man with his legs folded under him, the woman with her legs resting on
533 his thighs. In intercourse the man lies on top of the woman. Chanting before
or after copulation, as part of the fore- or after-play, is a well-established
phase of the sex experience. Old women all agreed that chanting should not accompany the sex act, but they felt that it should take place before the act; in this opinion they were supported by men informants. A group of younger women held strongly that chanting should be after the act. Undoubtedly both views represent current practice, but the opinion of old women may refer to a more general situation in former times. Both lovers chant together an old love song, or the man chants one of his own composition to his mistress.

833 After intercourse, for the sake of cleanliness and to remove from the person all traces of intercourse before proceeding back to the village, the woman always, and usually also the man, bathes in the sea.

The coming together of more than two people at the same place for the enjoyment of sexual relations was common in Pukapuka. Groups of young

833 girls and boys went together in the evening to the outer beach. There they played for a time and then paired off to copulate. That preferences and jealousies might sometimes wreck the happiness of these parties is well illustrated in case histories. The occurrence of periods of license after the chanting and dancing over the village sporting triumph is well authenticated from references in the chants. Married men and women and unmarried young people were all mixed together on these dance occasions. No tapus seem to have been observed save those for related kin. Intercourse on these occasions seems usually, but not always, to have been under the friendly cover of darkness, on any space near or on the dance ground. On certain other occasions, as at the end of the day when the canoes returned from a fishing competition, the women went to the beach to meet the men, and a period of wild lovemaking followed, all the more enjoyable because the men and women had been chaste for five or six days before and during the contest. It was customary during this license for women of one paternal lineage in the village to select lovers from among men of the other lineages in the same village.

833 At one time, if not throughout the history of Pukapuka, places were set
aside where groups of people of both sexes would repair for sexual intercourse.
177 The Pukapukan name for these places and for the group of people who sought enjoyment in them is *ati*. After contact between Pukapuka and Yayake, where these copulation groups were a highly developed institution, the Yayake name, *yau*, was borrowed and superseded the Pukapukan name. Each *yau* was presided over by an organizer and general guard (*taumatua*) after whom the group was named. The *taumatua* protected the members of the *yau* against unwelcome interference by jilted lovers or irate husbands. Men and women went to the *yau*, chanted and danced together, and had sexual intercourse. The place on Wale where the champion Waletiale once conducted his *yau* (1) is still pointed out.

837 In view of the freedom of sex experience before and after marriage in
152 Pukapukan culture, the question arises as to the incidence of jealousy in former times. From hints obtained from old stories, it is evident that jealousy was a frequent emotion of the spouse, but that the amount of jealousy stirred up depended almost entirely on the personalities involved. The classic expression of the culture pattern seems to be contained in the story of the visit of Te Palo to Pukapuka. When Pukapukan husbands discovered that Te Palo had been secretly visiting their wives, they were angry with him. But Te Palo reasoned with them: "There is nothing to it. My comings to your wives were comings only to scratch your women who are established so nicely in Pukapuka. Are you going to get angry for nothing?" The ideas which had angered the men subsided under this reasoning.

It would seem therefore that culturally there was no place for jealousy.

[586] 152 831 Other stories, however, indicate that a man might divorce his faithless wife or punish her or her lover physically. The community would agree that he had a certain measure of provocation, even though it might not approve of extreme types of punishment. On the other hand, some stories indicate that a man might be untroubled by a faithless wife and continue to live with her, even though he and all the island knew of her philanderings. The tales do not suggest that either spouse might become jealous of the other for joining in the behavior characteristic of the periods of license. This was socially approved; any jealousy that an individual felt he probably kept to himself. When the husbands plotted to kill Waletiale for seducing their wives, they were apparently more worried by the fact that their wives never came to sleep with them than by the fact that they also slept with Waletiale and his men.

581 836 Molingi discussed the sexual experience of the 33 unmarried women and girls in Pukapuka past the age of puberty, and the likelihood of their marrying. It is difficult to know on what her judgment that certain girls will not marry is based; it is probably, in general, an intuitive feeling that those girls whom she considers promiscuous (*wia eia*) can not attract husbands, because men do not want as their wives women who have had many men. A few women placed in the class of those not likely to marry are weak, sickly, not apt to bear children. For the rest, no reason was forthcoming beyond, perhaps, a certain ill-disposition evident in the girls in question.

> Of the 33 women and girls, 14 are still at school or have but recently left school and are aged up to 18 years. Informant was certain that five of these had lovers, two more probably had lovers, and five have probably not yet had intercourse. Of the remaining two girls she had no knowledge. Of these 14 girls it is yet too early to say which will be promiscuous and which not. There are four other unmarried girls of the same age who have children. One of these girls has had only two lovers and will probably marry soon. The remaining three girls informant characterized as being *wia eia*, over-sexed, promiscuous. Two of these she thought will not secure a husband, the third may or may not; the matter is doubtful.
>
> There are five women now well on in the thirties, who class as spinsters, women who have never married and who probably will not marry. They are *wia ina*, disliked by the opposite sex. Of these, four have children; one of these four is rated as promiscuous. The oldest woman without children is said to have been promiscuous in her day. There is a sixth older woman who might be classed as a spinster, but she is the island imbecile, a deaf-mute.
>
> There remain nine young women of the marrying age. Two of these Molingi classes as *wia eia*, though she thinks that neither of them has had intercourse! One woman who has had a child has had but one or two lovers but will probably never marry. The remaining six girls are all said to be men pursuers. Five of them do not have any children, and of these five, only two are likely to marry. The remaining *wia eia* woman, who has a child, is also not likely to secure a husband.

The promiscuous woman, generally condemned to remain unmarried and to be thought of as an irresponsible trouble-maker, will probably have chil-

581 dren by various lovers after she realizes her cultural position. She will live 836 with relatives who will welcome the arrival of her children and will care for them with every attention. Her status without a husband in the community will hardly suffer, and she will not be morally condemned in any way. Her lovers will be unmarried or divorced or widowed men. As long as she does not welcome married men to her arms, she will remain a respected member of the group. Only if she becomes a husband stealer (*lakau taetae*) is she likely to run up against the intense disapproval of the married women.

589 A bachelor is referred to by the descriptive phrase, *kili pipilo* (bad-smelling skin), or *kiko kakava* (bitter flesh). There is no name for the 582 bachelor status in relation to marital life, and such a status is outside the norm. Two very old men, one in Ngake, one in Loto, have never married; and one man in Yato of about 35 years is still unmarried. Besides these three there are only two deaf-mute males who will not marry. Of the two old men, informant felt that there was perhaps some truth in the descriptive phrases used of them. The younger bachelor helps to support his married sister and her large family; he may yet marry. There is no suggestion that any of these men is not normal psychologically or physically.

COURTSHIP

584 Patterns of courtship differ when individuals have in view a permanent 832 relationship leading to marriage and when they intend a semi-permanent liaison or the pleasure of an evening only. Patterns also differ for relations between two unmarried persons and between a married person with one other than the socially recognized spouse.

833 A young man or woman is expected to enter into a temporary liaison as soon as he or she has completed the adulthood rite. In fact, one informant, 881 Iti, stated that the girl's rite itself included the girl's first sexual experience.

The regular parading of the girls in the evening up and down the village 836 street on the look-out for lovers and possible marriage mates was apparently 584 a common custom in the days before the curfew sounded in Pukapuka.

Some men preferred to arrange meetings with girls through an inter- 431 mediary. This custom was not common. The intermediary was called *kalele* (messenger), *tangata tuku poloaki* (meeting arranger), or simply *yoo* (friend). The friend visited the girl to give her the message (*poloaki*), naming the meeting place. Stories indicate that the use of an intermediary was often as dangerous as it was helpful to the lover's success.

Some permanent and semi-permanent liaisons are sealed by the exchange of gifts between the two lovers (*ipo*). These gifts are termed *wakatopu*, a word applied only to such presents. An intermediary effects the exchange, taking a present to the girl and receiving from her a gift of talo for her lover. The intermediary keeps some food for himself in payment for his

584 services. Today an intermediary is looked upon by stricter parents with
scorn as one who aids and abets intrigues, but there is no reason to assume
836 that he was similarly regarded in former times. The gifts exchanged be-
431 tween lovers are tapu, to be used by the lovers alone. Another who wittingly
753 or unwittingly wore *wakatapu* clothes or ate *wakatapu* food would be com-
mitting a disgraceful act (*luma*) termed *kai wakatapu*. The punishment for
breaking this tapu is boils on the body and swellings over the eyes. Thus
if the father of a family commits adultery and receives gifts of food from
837 his mistress which he allows his children to eat, his children will suffer from
755 sickness. Informants suggested that this is a good explanation for the inci-
dence of hereditary ulcers and swellings that seem to visit successive genera-
164 tions of certain Pukapukan families, though they were unable to rationalize
the fact that the gifts were dangerous to outsiders in the first instance.

MARRIAGE

Monogamy is the rule in marriage. In those exceptional cases of con-
595 temporary sororate or levirate, only the sibling with whom a person first
lived was considered the married mate. Of the plural wives of individual
587 men in the genealogies, informants stated that they were successive. Only
one story collected concerns a polygamous man of Pukapuka (1). As divorce
was easily achieved, the stimulus to polygamy which might otherwise have
come from the desire for issue was not great, nor was the status of chiefs
sufficiently elevated to provide an economic incentive for polygamy.

582 The paternal lineage (*po*) and sub-lineage (*wakavae*) are nominally
neither endogamous nor exogamic. (See table 8.) Closeness of blood re-
613 lationship, which depends on the numerical size of the lineage, is the limiting
factor in intra-lineage marriage.

Table 8. Intermarriage Between Paternal Lineages[a]

	NGAKE		LOTO		YATO		
	Matanga	Muliwutu	Yangalipule	i Tua	Yalongo	Yayi	Yamaunga
Matanga, Ngake	9	5	2	6	1	—	—
Muliwutu, Ngake	4	—	3	5	—	1	—
Yangalipule, Loto	1	—	—	—	—	1	—
i Tua, Loto	5	1	2	1	—	—	—
Yalongo, Yato	—	—	3	—	—	4	—
Yayi, Yato	5	2	2	4	2	3	—
Yamaunga, Yato	1	1	—	—	—	1	—

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[a] Table 8 shows the amount of inter- and intra-lineage marriage in households which came within the census. The boxes indicate inter-marriage between the paternal lineages of each village.

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Of the 34 marriages shown in table 8, 18 are inter-marriages between the two Ngake lineages. Of the 31 Yato marriages, 10 are inter-marriages between members of Yato lineages, 21 are between members of Yato lineages and members of lineages in other villages. As the amount of intra-lineage marriage is influenced by the size of the lineage and consequent relative closeness of blood relationship of members, there is a relatively large amount of marriage between members of the large lineage of Matanga.

Some informants believed that an adopted child, not a close blood relative of the adopting family, might marry his adopted sibling, the blood child of one or both of his adoptive parents. But as they could furnish no specific instance of this, it is very doubtful whether it actually occurred, for cultural theory plainly holds that an adopted child assumes all kinship obligations and marriage restrictions of a blood child.

Like the groupings of paternal lineages, the maternal lineages (*wua*) are neither endogamous nor exogamic. But the constituent sub-lineages (*keinanga*) within each *wua* are exogamic. Approximately half the marriages

[616]

Table 9. Intermarriages Between Maternal Lineages*

		Wua Lulu						Wua Kati					
		Mango	Lakawanga	Yelu	Kava	Yeitae	Lokie	Kiole	Pukapuka	Kenakena	Lawala	Kati	Tawola
	KEINANGA												
WUA LULU	Mango	—	1	—	3	—	—	—	—	—	—	1	—
	Lakawanga	—	—	2	1	1	—	1	—	1	—	2	—
	Yelu	—	—	2	2	1	—	3	—	—	1	—	—
	Kava	—	3	2	2	1	—	1	—	3	1	3	—
	Yeitae	—	—	—	—	—	—	—	—	—	—	—	—
	Lokie	—	1	1	1	—	—	—	—	—	—	—	—
WUA KATI	Kiole	—	1	3	3	—	—	—	2	—	—	1	—
	Pukapuka	—	—	2	3	—	—	1	—	1	—	1	—
	Kenakena	—	1	—	2	—	—	—	—	—	—	—	—
	Lawala	—	—	—	—	—	—	1	—	—	—	—	1
	Kati	—	1	[illegible]	3	—	—	1	—	1	1	2	—
	Tawola	—	—	—	—	—	—	—	—	—	—	—	—

* The upper left and the lower right boxes indicate the intra-lineage marriages, the lower left and the upper right boxes indicate the inter-lineage marriages.

582 613 recorded in the census were between persons belonging to the same maternal lineage. Inter-sub-lineage marriages show no special preference when the numerically larger size of some of the lineages is considered (table 9). The six irregular, incestuous intra-lineage marriages occur within the three largest sub-lineages, two each in *keinanga* Yelu, Kava, and Kati.

621 From census figures based on village residence of mates prior to marriage, rather than on official village membership, it appears that there is a slight tendency toward intra- as against inter-village marriage, though it is not clear that there is any sociological factor influencing this tendency.

162 587 Of a total of 218 adults covered by the census, who are of marriageable age, 30 are at present unmated. Of these unmarried adults, 10 are widows, 7 widowers, 3 divorcés, 4 divorcées, 4 very old spinsters, 2 bachelors well past the marrying age. The marital status of 147 people is given below:

	Once Married	Twice Married	Thrice Married	Total
Males	54	18	—	72
Females	53	21	1	75

Of 66 marriages functioning at present, 41 are between mates whose only marriage is the present one. Twenty-five marriages are between persons of whom one or both have been previously married. Types of marriages in this category and the number of each are:

> Single man with widow, 5; single man with divorcée, 4; single woman with widower, 3; single woman with divorcé, 3; widower with widow, 5; widower with divorcée, 1; divorcé with widow, 2; divorcé with divorcée, 1; single man with widow-divorcée, 1. Of these 25 marriages, 16 are those in which a previously unmarried person mated with someone previously mated. It thus appears that a previous marriage terminated by divorce or death is no bar to remarriage with a previously unmated person.

RESTRICTIONS

582 588 Persons related by blood may not marry unless they are of the third generation removed from the common ancestor. Individuals in the relationship of cousin-in-avoidance (*wale atua*) may not marry so long as the common ancestor is remembered. On the whole island five marriages between cousins-in-avoidance are known, a very small percentage of the total number of marriages. One of the six irregular intra-sub-lineage marriages is also a marriage between cousins-in-avoidance and thus represents double incest. The attitude of the community to these incestuous marriages is discussed elsewhere (p. 263).

595 587 There is no pattern of contemporary sororate. Occasionally a man lives at one time with two women who are sisters. Such a man is referred to as *tangata kai wale* (house eater), a term of reproach and ridicule, applied also to one who commits incest. No rule governs successive sororate. The mar-

595 riage of a man to his deceased wife's sister might be desired and actively
encouraged by her family if he was regarded as a good man, a hard worker,
587 a skilled fisherman, and one worth keeping attached to the family. Similar
remarks apply to the levirate. A woman living at one time with two brothers
is termed *wawine kai wale*. Informants believed that the woman and the
brother not her husband would both die early deaths as punishment for
the sin. In successive levirate, if the deceased husband had been generous
(*atawai*) to them, the widow's family would urge her to marry the deceased's brother.

PERSONAL CHOICE OF MATE

581 Informants suggested that the following qualities were desirable when choosing a wife: beauty of body, breeding certainties, industry and skill at crafts, wealth in talo gardens and coconut trees. Some felt that obedience and a good reputation were important, others that an industrious and fruitful wife was a better choice than any other. Veti regarded it as immaterial how fruitfulness is proved, whether by a man's own effort or by the efforts of another lover and in this he expresses general opinion.

581 The cultural ideal of beautiful womanhood is in terms of averages only.
826 The ideal has: eyes wide apart, a high nose, small firm breasts, a well filled-out body, medium thick lips, and curly or wavy hair. Add to these an aver-
832 age height (a short stature according to western standards), a physically
strong and powerful body, light brown skin with an abundance of whitish
tinea marks, and the ideal is complete. A man or a woman who is trying to
win a mate will often make special efforts to beautify the body and to appear
industrious, hoping that appearances will help to make the desired mate more
sympathetic to the suit. This is termed *wakakume*.

WEDDING

584 Formal courtship having been initiated by *wakatapu* gifts of food, ornaments, and other articles of value, marriage is discussed between the two young people.

583 When an agreement is reached, the matter is referred to their relatives. If both
groups are agreed, the young man goes one evening to the girl's house, sleeps there
585 with the girl, and stays until morning (*wakanoalomo*). From his presence in the girl's
household in the early morning, the people of the village know that the marriage
(*wakaeonga*) is accomplished. A young man not intending marriage might sleep with a
836 girl in her house at night but would leave before dawn; this is called *tangotango* and
does not imply any obligations on either side.

A man set on marrying a girl who at first refuses him makes frequent and regular
584 presents of fish, mats, talo, even fishhooks, to her parents, and helps them at every opportunity in house building, canoe making, etc. The parents soon realise his object. They
talk to their daughter, telling her she ought to marry the man. If the girl refuses, they
give her a thrashing, saying that as they have accepted all the presents, they will be
shamed before the whole island if she does not pay back this indebtedness. Willing or

584 unwilling, the girl is thus taken to the man. If she later runs away, she is dragged back to her husband. If she remains recalcitrant, girl, husband, and parents fight it out until one or the other decides to give in.

The marriage is finally concluded by a feast (*waikinua*) and by the presentation

585 of gifts. In a marriage between undistinguished families or where there is a motive to keep it quiet, a feast is prepared by the bilateral relatives of both bride and bridegroom and is eaten on the same morning of the *wakamalama*, either at the boy's or the girl's

431 house, depending on which is more convenient. Relatives of both principals bring gifts which are divided among themselves. If the families are distinguished or wish to make

[574] a display, a large feast is prepared before the prearranged night on which the boy is to come to the girl's house. Again, the relatives on both sides contribute.

Wedding gifts of food are of two kinds: *koukou*, gifts of *wawa loloi* (a talo dish), *pulaka loloi* (a *pulaka* dish), uncooked talo, nuts or fish foods intended as a contribution to the feast to be divided among the relatives and friends present at the food division; and *tapu*, gifts of talo puddings (*kanaka*, *wawu*, and *olo*), bananas, chickens or fish, which are given as personal presents to the bride and groom, to be eaten only by them. The food is brought together early in the day. In the afternoon the bride and groom sit outside either's house while relatives bring them mats, malos, ornaments, sennit, fishing gear, and today piece goods, soap, and the like. This phase of the marriage is termed *wakawolo* (aggrandizing). Gifts brought by the girl's relatives are laid at the feet of the boy; those brought by the boy's relatives are laid before the girl.

Before presenting his gifts the donor may make a few dance steps and improvise a chant in which he lauds his own kinship group, refers to its wealth, and makes derogatory remarks about the poverty of the other principal's relatives. A presentation from the groom's side is followed by one from the bride's side, and the same type of praise and insult is repeated. This goes on for a long time, each kinship group endeavoring to outdo the other in the multiplicity and value of the gifts presented. When the gift-giving ends through natural exhaustion, the food is divided (*tau*) among all those present. Later the permanent gifts presented by the boy's side are divided among the relatives of the girl, those presented by the girl's relatives are divided among the boy's group. Only those relatives who have made gifts participate in this division. The bridal couple rarely keep more than a few articles. The differentiation in gift-giving found in Samoa is absent; relatives of both bride and groom bring the same types of gift, whether of food or of durable goods.

Several marriages of the *wakawolo* type occurred during our stay on the island and occasioned much excitement. As the burden of the gift-giving falls on the immediate families of the bride and groom, the drain on their wealth is considerable. One man who has married off three daughters at intervals of only a few months is now so impoverished that he fears his family will be sadly disgraced when his fourth daughter's *wakawolo* takes place shortly. The father of the groom has insisted on reserving this *wakawolo* until after the arrival of the bi-yearly trading schooner so that he may make such a show of gifts as will effectually put the bride's relatives in a very inferior position.

The marriage of a chief or of a son or daughter of the chief followed this general pattern. The mate for a member of the chiefly family was chosen from a family wealthy in talo and coconut trees. The usual gift-giving was held, but on an elaborate scale commensurate with the wealth and status of the two families concerned.

ADULTERY

837 The concept of adultery (*wakaipa*), as felt and acted upon in former times, is difficult to define. Informants looked at the matter in the following terms:

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If a married woman went from her house to sleep with another man and remained with him until daylight, she had committed adultery and belonged henceforth to her lover, for her act, called *puki wenua*, was tantamount to divorce. If the woman returned to her husband's house before dawn, her behavior might also be considered adultery; but it was not generally condemned, even though her husband was at liberty to whip her. A woman might obtain her husband's permission to sleep with another man, and no punishment befell her as long as she returned home before daylight. Similarly, if before going off with another woman a man told his wife where he proposed to go, and if he returned before dawn, there was no cause for divorce on grounds of adultery. If the relatives of an erring young wife liked her husband and did not wish him to drive her from his house because of her infidelity, they intimidated her with thrashings until she returned permanently to him. He might be only too glad to have her return and so would not dare to punish her himself. There is no suggestion that payment or recompense was ever exacted by the injured party from the co-respondents in any adultery case. The group of stories (1) in which adultery is the motif illustrate the variety of individual and social reactions. Today the attitude to adultery is confused through the operation of the Cook Islands' Act, under which the resident agent governs the island. This act punishes adultery defined in terms of western concepts. Much of the present-day so-called adultery on Pukapuka is committed by day by married women with single young men. Court punishment for the offense does not necessarily lead to divorce as long as the unfaithful spouse returns to her mate.

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DIVORCE

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Divorce (*maku*, to throw away) was easily procured in the native culture on grounds of incompatibility, specifically for adultery, cruelty, or personality conflict. A man might drive his wife from the house, or she might leave of her own accord and return to her relatives. The amount of provocation necessary for divorce depended entirely on the married couple concerned: where one might condone adultery in a spouse, another might consider this cause for divorce. Three married couples were separated during our stay on the atoll; two separations were due to alleged promiscuous behavior of the wife, the third was due to adultery on the part of the husband. Formerly, separations were equivalent to divorce, but today they are only the first steps in a tedious and (to the Pukapukan) expensive process leading to a legal divorce. One informant stated that Pukapuka is an island where women freely leave husbands (*e wawine maku tane*) and so initiate divorce. Close analysis of the records suggests that there is large measure of truth in this generalization.

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Of 148 marriages of which there is record, 60 have been terminated by divorce or death: 18 of the 60 were ended by divorce; 42 by the death of one mate. Of the 18 marriages broken by divorce, 11 were childless; 7 were fecund. Though the presence of children is no bar to divorce, nevertheless it is established that the greater number of divorces occur among childless couples. Both of these conclusions are well grounded in the patterns of the society. With the extended family and the prevalence of adoption, it is an easy matter to take care of children rendered homeless by the divorce of the parents. With a premium on children to carry on the lineage, there is ground for divorce if the marriage is barren.

DISPOSITION OF CHILDREN

586 No rule for the disposition of children of divorced or separated parents can be established from practice. Each situation is dealt with on its merits when it arises. Some informants felt that children should follow the mother as they belonged to her maternal descent group; others insisted that children should remain with the father as they belong to his paternal descent group. The divorce of parents does not alter either the maternal or paternal lineage affiliation of children.

Children of marriages terminated by the death of one mate continue to reside with the surviving parent, whether or not he or she remates. Where circumstances demand, children are shared either by simple residence or adoption among their bilateral kin.

DEATH

MOURNING

764 Parents or other close relatives attend the corpse (*mate*) in the house where death occurred.

They first wash the corpse, then place it on a special pandanus mat (*epuepu*) made for the deceased when he reached sociological adulthood by his mother or other close female relative, and since kept in the rafters of the house. For some corpses attendants make a sort of tentlike enclosure called *la* by sewing four pandanus mats (*kie*) together. They place the tent on top of the corpse and go under it to dress the corpse in a waist wrap, if a male—a short pandanus wrap only long enough for one turn between the thighs and round the waist, made by the deceased's mother in advance and reserved for this purpose—in a kilt, if female. They place a *yama* necklace of pearl shell round the neck and tie a *tiki ui* (string of pearl or other valuable shells) round the waist. They then remove the tent and place the corpse on view. For other corpses the tent is dispensed with and the corpse prepared in the open house. If the individual dies with the mouth open, the mouth is not closed; it is covered nowadays with a black rag to make the face look better and to keep the flies out. The eyes are always closed after death, sometimes before if it is obvious that death is imminent. [763]

If for any reason it is desired to hold the mourning (*tangi*) elsewhere, the dressed corpse is shifted to a suitable house owned by a relative. A desirable house is a large one to accommodate the crowd of mourners, and cool to refresh the mourners during their long vigil. One corpse that I saw being thus moved to a more appropriate house was rolled in a sheet and carried by the principal male mourners. A crowd of children preceded the corpse and disported themselves, laughing and wrestling. Behind followed two old women, sisters of the deceased, weeping aloud and crying out after the deceased sister.

When the news is spread through the villages that there has been a death, the mourners, close and distant relatives of the deceased, go immediately to the house where the corpse is laid out. Wailing continuously, they formerly

764 walked hunched-up, cutting their bodies with sharp shells or pieces of coral. They did not walk along the main road between the villages but proceeded through the bush or by back paths. The mourners were not considered unclean. Their hearts were too full of sorrow for them to wish to meet unaffected people. They were not responsible for their actions, so intense was their grief. Hence it was better for them to keep away from the main group of people while in this highly emotionalized state of grief-stricken frenzy. Similarly, mourners going from one cemetery, where they had been watching over the grave of one relative, to another cemetery to take up residence over the grave of another just buried, also walked by the back paths so that their grief would not be communicated to the general populace. The route taken by mourners is called *te ala o te tupua* (the path of the creatures).

Arrived at the house of death (*wale mate*), the mourners walked once or twice around the house, wailing the while and still bent double—then they entered and joined those within. By the time all the mourners had gathered, the corpse was covered or wrapped (*wakatuye*) in another mat, leaving only the face uncovered.

764 It was tapu for any relative or friend to uncover the corpse to take a last look at it.
605 This tapu is explained as a precaution to prevent bereaved spouses or cousins-in-avoidance ([illegible]) from throwing off the mat and lying down beside the corpse, or lying on top of it. By all accounts this tapu was frequently broken, especially by cousins. It
839 was assumed that the grief of a cousin-in-avoidance would be more intense and frenzied than that of any other close relative. It was further assumed that the surviving cousin
1054 would seek from the dead what was denied by the living. This last frenzy of the cousin, leading to passionate embraces, even intercourse (termed in this context wale-[illegible]),
602 though not socially approved, was at the same time highly excusable. When it occurred it produced no horror or fear in the minds of the mourners. It was considered unseemly, a little extreme in the display of affection. Informants discussed the matter as if it had been a normal expectation in death scenes; there is no record of its happening in recent times. The inference is that it occurred much more frequently in premissionary times when the functioning of the kinship avoidance was so rigorous as to necessitate a sufficient give in the social fabric to provide a possible outlet for banked-up emotions.

764 As each principal mourner arrives at the house of death, he presents to the corpse a death gift ([illegible]) of mats, malos, pearl-shell necklaces, fish-
[576] hooks, or other valuables, which he places on the corpse, then smells[13] (*yongi*) the corpse before retiring to a suitable position among the mourners. Each visitor also brings a gift of mats or talo, which is placed aside for later division. The close relatives of both sexes sit or lie on the floor in a circle round the corpse. Those most affected half recline across the corpse, burying their faces in the body of the deceased and encircling their arms round it in special frenzies of grief. Other relatives stand by, stamp their feet, move their arms in swaying motions, and cry out to the deceased whom they

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[13] A literal translation. The Pukapukan greeting is both inhalation and nose pressure with emphasis on repeated inhalation.

764 address by relationship terms. A close relative of the deceased who is unable because of illness to go to the house in which the body lies, conducts his own wake, wailing through the night in his own home, however distant. More distant relatives and friends who come to pay their last respects to the deceased occupy places farther away from the corpse. They sit or lie on the ground within and outside the house. Children play about among the mourners; babies are fed when they awake and are then expected to go to sleep again. The wake is called *wakaalanga*. The word *tangi* is applied both to
764 the death-chanting and to the type of chant usually recited over a corpse.

533 Two groups of mourners, principally women, are informally constituted, each responsible for starting (*uyu*) alternate chants, which are taken up by all present. The mourners not greatly moved by the death take every opportunity to provide relief. Thus the alternate groups of women discuss in stage whispers what chant they shall start next. They begin one chant, get halfway through, and then forget the continuation, letting the chant trail off in the air with any amount of half-suppressed giggles. As each chant ends with a loud upward sweep of the voices, the chief mourners break out with sobs and wailings; but as this is considered more strenuous than chanting, every effort is made to start the next chant immediately. Formerly the chief mourners continued to cut themselves with sharp instruments throughout the wake. With blood pouring from their cuts, they became more and more excited, swaying wildly to the rhythm of the chanting. The excitement was climaxed if a mourner of opposite sex to the deceased tore off his malo or kilt and flung himself on the body.

764 At dusk, a coconut-shell fire or, today, a smoky kerosene lantern, is lit. Crowds of friends who have been working during the day turn up for the evening. Babies play about; older people get quiet amusement from watching the antics of the young; girls and boys flirt on the outskirts of the crowd. Those who can not get into the house of death sit beside the road on a grassy stretch, cool themselves in the night breezes, and gossip to their hearts' content.

The wake lasts from 18 to 24 hours, for the remainder of the day or night when death occurred until sometime during the following day. Today active church members chant during the day and hold a hymn-singing festival at night. More passive members of the church chant the whole time and finish up with no voices at all, bleary eyes, and general bad temper.

For interment (*tanunga*) the corpse is wrapped up securely in a number of mats. All the death presents are placed on the breast of the corpse, and the whole is securely trussed with sennit. Today it is customary to saw a piece from a canoe and make this into a wooden coffin, but this was never done formerly. A shallow grave (*lua* or *tuluma*) is dug in an east to west line in the cemetery (*po*) to which the deceased belongs, formerly with digging stick and coconut shells, today with pick and shovel. Followed by all the mourners and friends, the corpse is carried by the men to the grave. Burial is in the extended position; neither sitting interment nor flexed burial of any type was known. The corpse is placed in the grave with the head pointing to the east, the feet pointing to the west.

764
775 The rationalization for this position is that when the soul stands up to go to the Underworld, it will face to the west. Insofar, however, as the entrance to the Underworld is said to be just beyond the reef off the northwest side of Wale, it would seem

764 more logical to bury the corpse with the head facing this direction. It is likely, I think, that the idea of the corpse facing the west is a survival of the common Polynesian 775 concept that the point of departure for the soul on its way to the Underworld is always to the west.

171 After the corpse is covered with the coral and sand dug from the grave, a food division is made among all the people who attended the wake whether 764 or not they brought food or special gifts for the corpse. Where the ceremony is on a large scale, all the people in the village of the chief mourners 574 send nuts to the deceased to enable his family to make a large food division [245] in keeping with its dignity. Further nuts are obtained by stripping the row or rows of coconut trees planted round the border of each cemetery, reserved for use in death divisions and tapu for ordinary purposes. They are called *nu wakaoala* (nuts to tame) with the idea, informants suggested, of taming or satisfying the spirit of the dead person, who would not go to the Underworld happy unless he knew that honor had been satisfied by a food division among all those who had attended his wake. For an especially impressive division, pigs, fish, and prepared talo are also divided among the mourners.

765 The close bilateral relatives of the deceased formerly remained at the cemetery to watch the grave for a period of one or two moons. This mourning period was termed *taupo*. The mourners lived in a permanent house (*wale matenga*, death house) built in each cemetery. The relatives ate and slept by the grave, watching over it continually. The men might leave for a time to fish, the women to get talo which they prepared in a cook house (*wale umu*) close to the death house. Relatives brought food at regular intervals to the mourners. Between the two big cemeteries of Muliwutu and Matanga lineages in Ngake there is a pile of *Tridacna* shells, a sort of midden heap, approximately 20 feet long, 10 feet wide, and 4 feet high in some parts—silent witness of the many years these cemeteries have been in use and of the popularity of clam flesh with mourners. Throughout the period fresh nuts, fish, and talo for the soul to eat if it came back at any time from the Underworld were hung up outside the house of mourning by cords tied to the eaves purlins. It is evident that thieves might sometimes steal this food, for there is a special name, *tangata kaiyepu*, for such a thief.

On the second or third day after interment the mourners beautified (*wakalelei*) the grave by spreading over it white coral pebbles carried in coconut baskets (*kete*) from the outer beaches. These pebbles were not replaced when they became weather-worn and grey. The work on the grave completed, a food division, called *puyia wale*, was made by the deceased's relatives among all those who attended the mourning, sat with the corpse, or (today) helped to build the coffin, dig the grave, carry the corpse to the grave, or beautify the grave.

When the deceased's closest relative felt that the mourners' hearts were

765 cleansed of overwhelming sorrow and that they were sufficiently calm to return to everyday life, he announced that the mourning (*taupo*) period would end on the following day. A small feast (*lulukunga*) was held at the grave by the immediate family of the deceased for the friends who had supplied the mourners with food. The party then broke up without ceremony to return to the village. There was no further attendance on the grave. If another relative had died while the mourning party was at the cemetery, they continued in residence for a further period. According to Veti, some mourning parties resided in a cemetery for six to nine moons at a stretch.

765 526 613 Mourning periods were sometimes concluded with a seclusion (*kaitau*) followed by a wrestling contest. When the mourners left the grave, they selected young men of the paternal lineage, married and unmarried, to go into the house of seclusion (*wale kaitau*, see p. 282) for one moon to be fattened for the wrestling. On leaving the house of seclusion at the end of the period, the men paraded through the villages issuing the customary challenge. The match which followed brought the mourning period to a close.

DEATH OF A CHIEF

766 Formerly special procedures followed the death of the chief. The following material refers especially to the supreme chief who lived in Loto, but informants said that similar procedures might be followed for the chiefs of the other villages as well as for the sacred maid.

[763] The deceased chief was taken to the place on Loto beach called Te Ava-o-te-upe, bathed, and then taken back to his house. The body was smeared with scented coconut oil, dressed in the ordinary short death malo made by the women of the chief's household, and adorned with ornaments. Even if the chief died under suspicious circumstances, no post mortem examination was held. "If the body was dead, it was dead, and there was nothing more to be found out about it," is the way informants expressed the matter. The corpse was laid out, the wake began. The people of the island came to pay their last respects to the dead chief, bringing with them death gifts, as a last farewell (*wakawewi*) to the chief. Watching beside the corpse were two girls of the paternal lineage (*po*) of the chief. They were called *toute* (guardians). Each girl held in her hand a burning stick of *puapua* wood called *te awi o Matangi* (the fire of Matangi). As each mourner came forward to present his gift and to smell (*yongi*) the corpse, the guardian pressed the brand against his flesh. To show his intense love for the dead man the mourner was required not to flinch at the impact. A mourner who could greet the corpse ten times and withstand ten burnings was known to have tremendous love (*aloa*) for the chief, whereas the man who shrank away from the impact of the torch obviously had little love for his chief. The mourners recited chants for two or more days and nights if the chief had been beloved in life, for a shorter period if not. The chief mourner was the deceased's sacred maid.

The chief's grave, unlike the grave of an ordinary person, was dug very deep, down to water level. For interment the body was bundled in mats brought as death gifts; the other gifts were placed inside the bundle, and the whole secured with a large covering, such as the sail of the chief's canoe. Trussed with numerous transverse turns of sennit, the bundle was described by informants as "looking like a long cigar-shaped bundle (*sai*) of Samoan tobacco." Strong men picked up the body, raised it above

166 their heads on upturned palms, and carried it thus to the grave. The people of the island followed, chanting, with arms raised and palms upturned. On reaching the grave 539 they recited the following chant of which the language is archaic in part and the translation only approximately correct:

Kai yaki yakia	Carry above the head[1] (?)
Yuyu [illegible]	Wet (against the) face of the sky
Tipa, tipa	To one side, to one (the other) side,
Ule ule ei, ule ule ei	Up and down, up and down,
[illegible], [illegible],	Undulate, undulate,
[illegible]	Stand back (?)
Ui!	Throw down!

166 187 The bearers swung the corpse to and fro to the rhythm of the chant, and when the word "Ui!" was shouted out, they threw it with all their strength into the grave. The people listened as it fell against the bottom. If the body was heard to grunt, the omen was good. If there was no sound, a man was sent into the grave to fasten a length of sennit (*kaha*) to the corpse bundle. The body was hauled from the grave and hoisted on high, the chant was recited again, and the body crashed into the grave. All listened, and if no grunt was heard, the body was hoisted out and thrown a third time. If a grunt was heard, all was well; but if no sound was heard, the body was nevertheless left in peace, but the late chief was cursed for not vouchsafing the people some omen for the future. The rationalization for this procedure is this: the grave was dug deeply so that the chief's soul might quickly meet the spirits of his ancestors (*tupuna*) and the gods of the Underworld to request favors from them ensuring prosperous and happy times for the people on earth. The grunting sound for which everyone anxiously listened was a sign from the chief that the gods had agreed to his request. No sound meant that the chief was dissatisfied with his burial and refused to intercede with the gods below. Hence the people cursed him for being ungrateful to them.

166 Though there was no custom of using a canoe as a coffin for the chief, Te Kula, who lived approximately thirteen generations ago, buried one of his canoes in the ground and used this as a tomb for his children, opening the grave to place each of his deceased children within the canoe. Te Kula was himself buried directly in the earth close to the canoe. A row of stones marks the outline of the canoe, and other stones delineate the grave of the chief (p. 163).

166 245 176 After the chief was finally laid in the grave, earth and pebbles were filled in on top. The closest relatives remained by the grave. The young men of all three villages went to Loto's reserve, Uta, to get coconuts for the chief's funeral division, called *kava* or *laukava*. Other nuts were procured from the reserved trees (*niu wakavale*) round the chief's cemetery. The nuts, called *te kava o te aliki*, were removed from the trees in clusters and carefully lowered to the ground by a rope. No nut was thrown to the ground, and any nut that fell from the cluster as it was being lowered was discarded. Dropped nuts became imperfect and therefore derogatory to the prestige of the late chief.

The division of nuts took place on the meeting ground (*avanga*) of the old men's group (*tupele*). A strong man, who was chosen, picked up a cluster of nuts, held it before him with both hands, and gave it a sudden jerk. The nuts that fell from the stem were divided among the people; the nuts that remained on the stem were reserved for the god of coconuts, Tawayei. The man who shook off the nuts was called *te tuli [illegible]*. A divider who was so strong that he shook off all the nuts, leaving none for the god, or so weak that he shook off too few for the people (say only 10 out of 20) was dismissed. The god's share of the nuts was taken to the place called Taikele (at the rear of the present London Missionary Society church) and left on the ground to rot or to sprout; no man would dare to remove them on pain of death inflicted by the gods.

166 The relatives of the late chief remained in the death house to mourn for one to three moons. Covered with mats, they stayed mainly inside the house, never talked above a whisper, and did no work, being fed by other relatives not in mourning. There were no special food tapus or mourning adornment. When the mourning was ended, the

766 mourners placed the stones (p. 161) round the grave and returned to their houses.
There is no record that a seclusion (*haitou*) was ever held in conjunction with the
mourning for a chief. There was no tapu period after his death for the general popu-
764 lace: mourning observances were carried out by the close relatives of the chief without
affecting the people of the island.

ACCIDENTAL DEATH

The body of a person killed by falling from a tree, by lightning, or any
other mishap on Motu Ko or Motu Kotawa is taken back to Wale for burial
in the lineage cemetery. At the place of the accident a second grave is dug,
filled in again, and marked by stones. This is the grave of the spirit that is
supposed to linger about the place of death. The gravestones (*mauli ola*)
serve as a memorial (*wakamailongo*) to the accidental death (*mate yili*).
776 When formerly the spirit of one accidentally killed later visited a kinsman
in a dream, the deceased became an ancestor god (*atua tangata*) of his pater-
778 nal lineage, and the gravestones served as a shrine for the god. A sacred
clearing (*yionga mate*) was made between the shrine and the beach as a tapu
766 place reserved for the god.

764 The recovered body of a man drowned at sea is buried like any other. But a man drowned at sea whose body is not recovered, is commemorated by a gravestone (*mauli ola*), which is set up over a grave for his spirit on the beach opposite the place where he was last seen. His relatives hold a wake in his house and then go to mourn briefly at his gravestone. His grave would also be a shrine if he became an ancestor god. If they did not become gods, men who died at sea and whose bodies were not recovered became ocean spirits or else the ancestors or relatives of fish and other sea animals. Nothing is known of the Samoan custom of catching an animal or insect in a mat and burying this in the grave in place of the body.

766 Men killed by reserve land guards for violating the tapus of the reserves were usually interred in graves dug at the place of their death. Because of the intimate tie between cemetery and paternal lineage, burial in any other place than the lineage plot was a degrading fate for any man.

PRESENT-DAY PRACTICE

765 Today those death customs no longer followed out in full have been modified without altering the general pattern. Mourners do not live at the death house for the mourning period. Instead one or two relatives keep watch over the grave during the day, returning to the village to sleep at night. All the immediate relatives go to live in the house of the deceased for a month or more to mourn (*taupo*). Most of them merely sleep in this house, going home to eat during the day. In line with the withdrawal of mourners from village activities in former times, the chief mourners today refrain from going to church for several weeks after the deceased is buried.

Cultural Attitude Toward Death

761 It is a mistake to interpret any of these patterns of death behavior as due
to fear of contamination from contact with the corpse. There are no purification
764 rites, no special class of corpse attendants, and no fear of the corpse,
of the property of the deceased, or of the house in which he died. The
underlying idea in mourning is one of overwhelming sorrow which unfits the
mourners for ordinary social intercourse. It is best for them to live in retirement
until the sorrow has drained away and the heart is made anew by the
passage of time. The validity of this feeling is borne out by the attitude of the
768 Pukapukans toward the cemetery itself. Unlike our own feeling that a cemetery
is consecrated ground, where attitudes of quietness and respect are in
761 order, the Pukapukan feels that no different behavior is required in a cemetery
from that allowable on a main road; and this holds true even if there are
mourners watching the grave. Trails to talo beds, outer beach, and coconut
lands lead through the cemeteries, and people pass to and fro at all times. If
one goes to a cemetery to a funeral or to study gravestone construction, it is
legitimate to joke, laugh, and be noisy. One may sit down on headstones,
rest one's feet on a grave, even sit on a grave; one may smoke in the cemetery,
expectorate anywhere, and generally do anything one wishes. In taking
a short cut through a cemetery one may walk over graves, tramp where one
will. These things are not only permissible but are done every day by the
native Pukapukans. In many of the cemeteries close to the villages, children
play about the headstones, clothes are laid out on the graves to bleach, pandanus
leaves are dried close by, and coconuts are stacked against the headstones.
There is a prevailing feeling of great familiarity, none at all of holy
769 awe or religious fear, whether the cemetery is mainly pagan Pukapukan or
Christian Pukapukan. Along with this familiarity during daylight goes an
761 intense fear of the spirits of the dead at night, and he is a brave Pukapukan
indeed who would walk through a cemetery at night, even in full moonlight.
775 But this is a fear of spirits of the dead and does not affect the point that
the Pukapukan attitude toward death is one of realism and matter-of-factness
in an extreme degree.

PERSONALITY JUDGMENTS

521 It is not easy to get at the meanings of words used in characterizing
people in a society such as that of Pukapuka, where everyone gossips intensely
609 about his neighbors but where no one admits that such gossip ever
occurs. Any informant could give a list of many words, all suggesting
interesting personality types; but when asked to apply these words to the
626 behavior of particular people in the community, none would mention names
but were content with vague references. Only in the greatest secrecy, for
instance, did one give the name of a woman who was generally considered

521 to be *mata kivikivi* (disagreeable). Consciousness of shame about the
609 occurrence of gossip is the proper attitude to feel in the presence of white
626 people.

Three native words cover phases of anger. A person who is generally disagreeable,
rarely, if ever, pleasant to other people is *mata kivikivi*. Such a person is furious with
152 children who approach his house to play and is always getting into arguments or quarrels
578 with other people. The anger of such people is considered unreasonable and due
to long-continued bad temper, quite different from the type of anger called *lili*, which
626 is considered more justifiable. A man receives tacit approval if he is *lili* because his
wife has committed adultery or because someone has taken nuts from his trees without
permission. As long as he does not become too violent in punishing the wrongdoers,
reason is on his side. These two angers are distinguished from general hot-headedness,
from the anger of a man who flares up readily or quarrels without forethought. Such
a person is said to be *manava poto* or *ngakau kino*. He is condemned for his anger
because it gets himself and others too often into trouble.

Many words refer to those who show lack of respect for people or institutions.
152 Thus a child who is bold or forward before his elders is *wakalahapeka;* one who arrogates
576 to himself privileges that rightfully belong to an older person is also *wakalahapeka*.
This word is distinguished from the words *witoki*, *winaki*, and *matamua*, which
have nothing to do with respect due to age, but refer to any conduct that is bold or
867 unbecoming. A child who asks favors from a white person is *witoki;* a village that
wins a contest refers to the other two villages as *witoki* for having dared to compete
626 with the winning village. A person who boldly uses the personal possessions of another
is said to *wakamitamita*. Thus a young man who came into the office, picked up the
resident agent's rifle and playfully pointed it at us was reproved by his elders in no
uncertain terms for *wakamitamita*. On the other hand, the person who is bold with
property that is more intimately connected with the personality of another, as one who
lies on another's sleeping mat or wears another's clothes without permission, is *yawuluwulu
tutuina*. The person who generally interferes with another's property or business,
causing trouble by making a nuisance of himself, is *ngutu wakauya*.

152 Many words refer to persons who display unusual qualities about foods. A stingy
person is a *tangata kakionge;* a person who flatters another with frequent presents of
261 food is said to *yokoyoko;* a person who selfishly keeps to himself food that should be
shared is *woinoi;* a person who is greedy for food is *kopu yae;* a person who is given
621 to begging or wheedling food is *nanau;* a person who makes a point of eating at a
household other than his own is *kai yau;* one who steals food is *toyeuyeu;* one who is
generous at giving away food is *kaikai malie*.

One who acts outside the norm of what is considered intelligent behavior is considered
732 stupid or silly. Thus the island family of deaf-mutes is said to be *vale* or *valetiko*,
stupid in their behavior. This is distinguished from the foolish behavior of a person
158 who should know better. One man on the island suffers from religious mania and
takes every opportunity to deliver impassioned sermons. He is called *pupapupa*, meaning
826 that he speaks and acts foolishly.

Shameful personal peculiarities are *lumo:* a crippled person has a *lumo;* a bald-headed
626 man has a *lumo* and consequently wears a hat day and night. The reaction to
a peculiarity of this nature is one of ridicule, never one of sympathy.

The Pukapukans use freely in conversation such terms as *toku veia* (my enemy or
my hated person), *toku mina* (my loved or favored one). Especially among children
152 or adolescents one hears the shouted remark: "Ti, toku veia, ko koe" (You're the one
I hate), often addressed by an older child to a younger child who has been teasing or
857 making fun of his elder. To have strong dislikes for people is *wai veia* (to make
enemies); to have favorites, *wai mina*. A person who is equably tempered, suffering
156 not enemies or friends is spoken of as *e ye wai veia* (one who does not make enemies),
or *e ye wiliwili* (one who does not select people).

183 Many other moral judgments, personal insults, and condemned peculiarities are to
be found in the folk tales and stories, a study of which throws much light on the specific
cultural patterning of preferred conduct in Pukapuka.

DREAMS

828 Pukapukan theory of the causation of dreams (*miti*) links with the psy-
chology of the soul (p. 325). The soul is conceived of as a mobile unit that
774 leaves the body at night during sleep and wanders freely about the world in
search of adventures. It is these experiences of the soul that constitute the
869 tissue of dream-life. There is no confusion between dream reality and the
reality of waking life, though the dream experience is significant of super-
normal life and helps to reenforce a set of related concepts which sum up for
the Pukapukan his knowledge of the supernormal world.

Dreams are valuable circumstantial evidence to the Pukapukan for the
793 existence of the Underworld (Po). Though it is rarely given to the layman
828 to visit the Underworld in dreams, it was common experience for the priest,
and his related experiences carried with them the conviction of certitude.
787 At times the priest might reenforce his story by displaying trophies gained
775 by him during his visits to the Underworld, as Levi, for instance, displayed
the foods that he obtained there, or the gong beaters that he took from the
hand of Tulikalo (p. 330). But these materialistic evidences were not neces-
[829] sary for his story to gain full credence. It is related that laymen acquired,
through dream visits of their souls to the Underworld, special techniques in
craft activities, such as the making of fine plaited upper-body garments,
which could not be learned by ordinary knowledge of a craft or by prolonged
practice at its principles. Because a soul can no longer visit the Underworld
of old-time Pukapuka, the making of certain garments is a lost art today.

776 Some dreams, especially nightmares and dreams of suffocation, are caused
by the activities of free-wandering spirits and malicious familiars (*aitu*)
828 which come to a person in sleep, grapple with his soul, and strangle it. It is
the terror of this embrace that produces for the Pukapukan the peculiar
horror of the nightmare. Other spirits have been known to come to a woman
in sleep and have intercourse with her. Against these spirits there is no
defense.

828 The only type of pleasant dream experience is a dream sign of the con-
ception of a child (*miti wakatiti tangata*), which generally relates to the
787 experience of the soul with pretty flowers, trees heavily laden with fruits or
coconuts, or flourishing talo beds. Dreams of falling from trees or hills
down to a lower level are bad, and ill fortune will come to the dreamer or to
a close relative of his. To dream of one who is dead is a sign that someone
related to the dreamer will soon die, the implication being that the dreamer's
soul has already seen in the Underworld one who will soon die. There is no
way of mitigating the effects of a bad dream. One may tell the dream to

828 friends or relatives but this will not ward off its effects. Nor does it help to keep a dream secret. In point of fact, the Pukapukans take great pleasure 787 in talking of their dreams and discussing them in great detail. Many dreams [821] told us did not seem particularly significant but related to the arrival of a steamer at Pukapuka, bringing with it large supplies of flour and clothes for the people. These might be construed as anxiety dreams, as one of the ever-present problems of the Pukapukan of today is to obtain enough clothes to keep himself and family dressed according to the white man's idea of decency; and in an atoll where a heavy storm may seriously deplete the available food supply, it is perhaps only natural during the hurricane season to dream of abundant food. A number of dreams related to us are reserved for treatment elsewhere.

RELIGION

CLASSIFICATION OF GODS

178 771 Nowhere has cultural change had more effect on Pukapuka than in the sphere of religion. Christianity has not only erased old-time beliefs and customs; it has made it a sin to talk about pre-Christian religious practices. In the 78 years since the island was Christianised, memories of the old religion have become rusty in a way that does not apply to social organization. It is impossible to obtain eyewitness accounts of sacred ceremonies; this lack of first-hand material necessarily renders the following discussion somewhat abstract.

776 Nowhere is the confusion over old-time religion more evident than in the subject of gods (*atua*), their functions and their classification. This was considered many times with different groups of informants after we had gained their confidence; each group had differing ideas of what the old time set-up really was. The following classification suggested by informants is probably as nearly correct as any that could be made at this late date:

Atua wolo: big god.
Atua pumapuma: principal gods of the paternal lineages (po) who are worshiped by priests of the lineages on special religious structures (awanga ya).
Atua tangaloa: principal departmental gods, not associated with lineages, prayed to anywhere, any time, by layman or priest.
Atua tangata: deified ancestors associated with the specific paternal lineages of which they were members when alive, prayed to by lineage priests on religious clearings (yionga) or by lay lineage members at commemorative stones (wawa mauli ola).
Atua no te po: departmental gods of the Underworld, not prayed to.

Besides the above gods there are also several unclassified gods who were not prayed to and are now remembered only in legends. Through forgotten historical accident and because of dual function, several gods appear in more than one category. Informants could give no meaning to the category names, *pumapuma* and *tangaloa*. Classification concerns only the important gods—

776 114 that is, gods whose names are remembered today. In addition a host of minor gods, attendant spirits, and servant gods of the major gods were recognized.

Stimson (25,p.101), without quoting authority, gives Kio as the name of a Pukapukan god and suggests that this god is related to the Mangaian god Tanekio (Tane-the-chirper). Repeated inquiry failed to reveal the slightest knowledge of such a god. The only meaning given for the Pukapukan word *kio* is as the name of the children's game. Possible Pukapukan dialectical cognates of *kiho,* which would be *kiwo* or *kiyo,* are unknown to informants.

PRINCIPAL GOD

776 613 562 Mataliki, the major god of i Tua lineage, was the great god of the atoll in the sense that the chief of i Tua lineage was the supreme chief of the island. He was a sort of state god. There is no evidence to suggest that he was in any way supreme over the other gods, that he controlled them spiritually, or was the head of the Pukapukan pantheon. He was simply major god of island affairs, leaving each of the other lineage gods supreme in lineage affairs. In general, Mataliki is the supreme god of male things in Pukapuka, and men claim him as their special protector, referring to the members of their sex as *te manu o Mataliki* (the birds of Mataliki). At one time it was tapu for women to go to the reserves because they were under the control of Mataliki. No women except the sacred maid were allowed to enter either a fishing or voyaging canoe. The saying is, "Te manu a Mataliki, ka wo ki te moana, te manu a Taua nono ai i lunga a te wenua" (The bird—man—of Mataliki goes on the sea, the bird—woman—of Taua stays on land).

Besides his duties as a god of i Tua, Mataliki implemented the secular control over village lands. If a man went to the reserve to steal, Mataliki shouted a warning to him as he started to climb a tree. If the thief persisted, then the next time he went fishing, Mataliki sent a shark to swim around his canoe and frighten him or a big wave to swamp the canoe. Mataliki also cared for the morals of voyaging Pukapukans (p. 401). For the origin of Mataliki and other gods, see page 375.

GODS OF PATERNAL LINEAGES

[753] Taua, also god of i Tua, was the special guardian of women. Women are referred to as *te manu o Taua* (birds of Taua). Thus, no man would dare touch a woman in a brawl or quarrel because Taua would punish him by afflicting him with a big tumor under the armpit. Though her powers were great, Taua was never elevated from her position as goddess of i Tua to the high status accorded Mataliki—possibly because she was a female god.

Taua prevented anyone's eating or using as implements parts of the

776 human body. She was also specially consulted by the supreme chief when it was necessary to conceal the island from hostile canoes, or in cases of anti-
613 social conduct harmful to the life of the island as a whole, such as disobedience, thieving, breaking of tapus. If individual stealing from the reserves was reported to this goddess by her priest, Taua would send sickness or cause the thief to miss his step next time he climbed a tree and so fall to the ground.

Tumulivaka, the son of the god Mataliki, was one of the more important gods of the Ngake lineage of Muliwutu. Nothing specific is remembered about his functions.

[775] Te Vayi, another god of Muliwutu, was guardian of the eight-walled structure (*pa valu*) in the Underworld, and in this capacity could be called upon to punish deserting or adulterous husbands of any lineage by burning their souls in his fire. It is not clear whether this concept of burning a living soul is ancient.

Yawenga was a third god of Muliwutu. He became an ancestor god after he had broken the tapu against eating coconut with turtle flesh, the punishment for which was drowning by a turtle. He was later promoted to the status of an *atua punupunu*.

Te Matakiate, the daughter of Mataliki, and Malokitelangi were the principal gods of the Ngake lineage of Matanga. Their functions were general and they made no specialty of curing sickness. Malokitelangi's rainbow sign of approval was essential in the choice of chief for this lineage.

Tumailangi, god of the sub-lineage (*wakavae*) Paku of Matanga, had no separate religious structure of his own, but was consulted either in the god house of his sub-lineage, or else on the religious structure of the god Malokitelangi. He was a god with special curing powers, available to all the people of the island, but was always consulted through a priest of his sub-lineage.

Tamayei, a major god of *I* Tua, and the god in charge of all the coconut trees on the island, was remembered with a gift of nuts, placed aside for him whenever the chief of the island made a special *laukava* food distribution. It was also considered pleasing to this god if coconut husks were picked up, arranged neatly, and covered with humus or sand.

Kui, at first an ancestor god, later came by promotion to be god of Yangalipule lineage. His exploits as a human being during the reign of the
776 chief Kamola are recorded elsewhere (1).

Taumalanga, first an ancestor god and then an *atua punupunu* of Yama-
613 unga lineage of Yato, was originally a child aged ten months drowned in a
226 talo swamp after it had become flooded by heavy rains. He had special powers over fish; when the people of Yamaunga went fishing they prayed

[226] to this god to send fish close to the surface so that they might be more easily noosed.

776 Te Maungatu, another god of Yamaunga, seems to have had no special powers other than those relating to the general protection of his worshipers.

613 313 241 Te Mangamanga, god of Yalongo lineage of Yato, added to his general duties special duties which included the protection of the reserve of Niua, its nuts, talo and timber, and also the control of all the *ngangie* wood growing anywhere on the atoll. If anyone wished timber from Niua for a canoe, or *ngangie* for implements, he went first to the priest of Te Mangamanga, who consulted the god; if the god was willing, the priest cut down the tree or the piece of *ngangie* and gave it to the person who had requested it. For an unauthorized person to cut timber, or to steal from the reserve, constituted a theft from Te Mangamanga, and the god was quick to punish with sickness. Whales that drifted ashore also came within the special province of [262] Te Mangamanga; it was his priest who directed the cutting up of the whale and its division among the people. No child might eat whale flesh on pain of being made sick by this god. Te Mangamanga was sometimes called *atua pouli* (god of darkness) because he was supposed to inflict his punishment under cover of darkness.

Te Tawitonga, another god of Yalongo, hissed and frightened thieves stealing talo from the beds of Niua, or from those controlled by his worshipers.

DEPARTMENTAL GODS

776 Matalolau and Matalomea resided in the mud of the talo beds. Neither religious structure nor priest was associated with them. Every time talo was taken from the beds these two gods were remembered with a gift of three or four tubers left for them in the ground.

776 821 Kanitika was originally a god who controlled the sun. Because he did not order its heat to the liking of either gods or people of Pukapuka, the four gods Te Awuawu, Te Atua Vaelua, Ngaliyeyeu and Te Alangaoa removed Kanitika from the sun with a pair of coconut fire tongs and threw him to the earth where he landed in a flash of lightning. Some informants thought Kanitika went back to the sun in a chastened spirit, since which time the days in Pukapuka have been much cooler; others believe he changed himself into an earthly god, renaming himself Te Atua Pule.

[621] Te Alongaoa, besides being a god of Matanga lineage with ordinary duties, joined with Te Atua Vaelua, Ngaliyeyeu and Te Awuawu to make a quartet of free-lance gods who at times had the attributes of culture heroes, at other times those of departmental gods controlling winds and seas. These four were greatly given to bickering and contesting among themselves. They were specifically concerned with the control of the winds. Te Alongaoa was god

776 821 of the south wind; Te Atua Vaelua was god of the north wind; Te Awuawu, god of the east wind; and Ngaliyeyeu, god of the west wind. The four gods were leaders of hosts of attendant gods who fought each other from their respective parts of the sky by throwing spears at each other. The spears were thought of as shafts of air and the speed with which they traveled caused the winds to blow. Thus when the winds grew strong the people said, "The spirits of the gods are fighting hard." Then the people went to the priests of Te Alongaoa and Te Atua Vaelua and asked them to intercede with the gods to call off the battle for the time being. If the winds of Te Awuawu or Ngaliyeyeu were rebellious, the people prayed to these gods directly.

Because of their control of the winds, these gods were directly interested also in the control of the sea, especially the natural perils of the sea. They were consulted directly, or through priests, before fishing or voyaging expeditions that they might favor the people with calm seas and gentle winds. In this control, they were joined by Talitonganuku, who was more interested in waterspouts and whirlwinds. Fighting between the gods was responsible for the abandoning of deep-sea voyaging. (See p. 408.)

776 262 613 Te Alongaoa and Te Atua Vaelua were also interested in fish, particularly in fish with pointed mouths like garfish, sword fish, needle fish. The priests of these two gods were not supposed to eat any of these fish; this is the only example of a food tapu associated with a god. The people of the lineage might eat these fish.

776 Te Awuawu and Ngaliyeyeu were sometimes called *atua lata tangaloa* (tame gods). They were considered more reliable than some of the lineage gods, and were consulted by all the people of the island when quick action or response was required. They could be consulted anywhere and at any time, on land or sea, and did not require the mediation of a priest. They were appealed to in sickness, for the curing of which their reputation was high. Though their home was in the Underworld, they were ready to come forth with the utmost promptness to help intercessors.

776 613 It is possible that formerly there were decorations and attributes associated with these gods that are now forgotten. Thus in an old chant, "Langona e te lulu i Matano", there is a reference to the carrying pole (*amonga*) of Ngaliyeyeu. This is believed by informants to refer to the fact that Ngaliyeyeu used a carrying pole to transport, perhaps symbolically, his power from one place to the next. He gave part of his power or protection, which by transfer was attributed to his carrying pole, to the sub-lineage Walangakula, another part to the Yato lineage Yayi. Hence these lineages sometimes refer to themselves in chants as *te amonga o Ngaliyeyeu;* they refer also to their worship of the carrying pole on the religious structure of the god. With Ngaliyeyeu are associated decorations of *pua laukia* for his male wor- [361]

776 shipers and of *pua takave* for his female worshipers. On all festive occasions
it was permissible for men and women to wear these decorations. *Pua laukie*
301 may be either the flower of a *kie* tree, which is unknown in Pukapuka, or
613 else some ear ornament made from pandanus. Similarly, *pua takave* may be
an ear ornament made from red-dyed pandanus or else the flower of a tree,
unknown today, which some thought had formerly been introduced from
Manihiki. Whether other gods had decorations associated with them, apart
from priests' specific dress, was unknown to informants.

776 Ngaliyeyeu is the god who reintroduced fire to the Pukapukans after the
[312] seismic wave by giving it to his priest, Te Ule. Walieu, another worshiper,
had special curing powers derived from the god. When his fire went out,
Walieu lost these powers.

Te Laupapa was a god who protected Motu Ko from thieves and also
guarded the fishing rights of Ngake village over the reef that runs from Utu-
poa to Motu Ko. Thieves who came back from Motu Ko were followed by
Te Laupapa, who sent an attendant spirit to enter their bodies and gnaw
away the fat. Te Laupapa was supposed by some to reside in a hole in the
reef. He went up and down the reef in the hot sun by day wearing a head
covering of *welo* bark. People walking along the reef often saw a broad
776 shadow going before them and knew that this was the shadow cast by the
822 covering of Te Laupapa. It is likely that Te Atua Vaelua sometimes helped
Te Laupapa to guard this reef. A priest or medicine man who prayed to Te
756 Laupapa was given powers by the god to cure sickness, to see spirits and
793 ghosts, to clap his hands and find them full of fish, to go to one of the
reserves and find there food for him already cooked.

Tangata-no-te-moana was a god of Muliwutu lineage of Ngake. He
776 had no religious structure and no priest; hence all the people of the island
might consult him if they wished. He was a god of the ocean, controlling
613 the fish therein. He also cared for the plants and trees of the Underworld,
especially those plant forms that bordered on the great sea of the Underworld
where the spirits and gods went fishing. A powerful fishing god, he always
helped Muliwutu men in fishing contests, and other fishermen at other times.
His body was conceived by some to be in the form of a fish. He seems to
have been a powerful god of the Underworld.

Tulikalo was a god of Ngake village who possessed a type of sacred enclosure called a *nawa*. His village duties are not clear, and his best fame is as a musician god of the Underworld, who played the slit wooden gong and was a virtuoso at whistling.

ANCESTOR GODS

Of the many deified ancestors, some have no more status than that of familiar spirits; others have acquired the rank of minor gods of the lineages.

776 613 Malangatiale was killed by lightning at sea. Vakayala is best known for the fact that he stole from Motu Ko, then ran amok and killed two children, and was finally tortured and beaten to death by the enraged populace. Kui Manuila may be the same person as the Kui who is a departmental god; informants remembered only his name. Like Malangatiale, Te Pewu became an ancestor god after he was killed by lightning. Poiva and Taukava are remembered only as gods of Yamanaia sub-lineage of Yangalipule. Wakakewiti is given by some as a malignant spirit, by others as an ancestor god of Yamanaia. Lowia is known as a god of Yato. Leweke is a god of Yamanaia. All these gods had religious clearings (*yionga*) and stones to mark the place where they were accidentally killed.

776 226 793 All these ancestor gods helped the people of the village or lineage with fishing and bird catching. Before fishing, men consulted the priest of the sacred clearing (*yionga*). If the gods gave favorable answer to the priest, the people came back with many fish. If they were unlucky, they blamed the priest for his lax attention to his duties; unless the priest admitted that he was at fault, bad luck continued to harass the people. In fishing bonito or other deep-sea fish, whenever the men of Matanga went past the part of Motu Ko from which they could see the clearing of Te Pewu, they stood up in the canoe and performed the thigh-beating ritual (*wakatato*) to secure the favor of the god and bring fish to the hooks.

Leweke was directly interested in *Tridacna* (*poyua*). His shrine, called Te Potu-o-Leweke (Sacred-seat-of-Leweke), was a small raised platform of stones near the lagoon beach of Loto village. When a man returned from clam fishing he would place a good clam aside as a gift to this god. People who did not belong to the sub-lineage of Yamanaia asked a priest of Yamanaia to intercede with Leweke to insure good clam fishing.

776 All the ancestor gods, and particularly Malangatiale, were interested in bird catching. They had the power of sending flocks of birds to the hands of those who prayed to them. The gods made the birds tame and easy to catch.

All the gods were generally thought of as living in a place called Titua under the sea or in the Underworld (Po). Those who were lineage gods came forth from the Underworld to help their intercessors. A number of other gods resided permanently in the Underworld; they cared for the public works of the Underworld and attended the spirits of the recently dead.

UNCLASSIFIED GODS

Unclassified gods are those who are not prayed to and have little influence on the lives of humans or else function primarily as culture heroes. Maui comes within this class, but he was definitely a culture hero with godlike

776 powers, though not deistic functions. Lu was called upon by Te Atua Vaelua to raise up the sky. He came from the land of Aolako, accompanied by his friend, Pingao. Te Atua Pule is thought by some to be the same as Kanitika, but by others to be more of a man-eating ogre. The only mention of Te Alikitu is in the story of the three-cornered contest with Te Awuawu and Ngaliyeyeu (1). Nothing more is known of him.

776 Wua and Velo were gods who "made" star signs, showing the seasons for fishing. Two stars, either α and β Centauri, or two others of the same
821 declension, are called Na-lua-mata-o-Wua-ma-Velo (The-two-stars-of-Wua-and-Velo).

Totoloa was a god of the eastern seas; Tipeva and Kamapu were gods of the western seas. They lived in houses under the sea and had as their mistresses (*ipo*) the large deep-sea fish. These fish brought all the pearl-shell fishhooks they could bite from the lines of Pukapukan fishermen to the gods who stuck the hooks in the rafters of their houses.

The phrase, *te pane o Tane* occurs in a chant; informants believe this refers to Tane, a god of the legendary land of Yayake. The word *pane* is so archaic as to be no longer translatable, but informants thought it might refer to some mysterious power possessed by this god which enabled him to send fish around the canoe of the fisherman. Nothing more is known of Tane, nor is anything known of other major gods of the Polynesian pantheon such as Rongo or Tu. The name Tangaloa occurs in two chants, "Wakaanga kokoti te waulua" and "Wakaoli io koe". In the first, Tangaloa is referred to as an *aitu wangota* (fishing spirit); in the second, mention is made of the southern place (*te vayi tonga*) of Tangaloa. Informants could not clarify these references and had no memory of a god corresponding to Tangaroa.

ATTENDANT GODS

776 A final class of spiritual beings with godlike powers were called *newu* or *tikitiki*. They were minor gods or servants of the major gods. When a
775 fisherman's request to the major god of his lineage was favorably received, the god sent some of his attendants to help the fisherman. The attendants came from their legendary meeting place called Lauawa, rounded up the fish, and drove them toward the fishing canoe. Informants compared these minor spirits to angels assisting the major Christian gods. Some of these
776 minor spirits were recruited from the ranks of ancestral spirits or spirits of the recently dead. Others were small gods who dispersed from Tonga when
613 Maui hauled it up. In this latter group are placed the names of minor gods, who sometimes function as gods in their own right. A good example is Te Maungatu, who is sometimes given as an attendant god, at other times as subordinate only to Te Laupapa, and again as a god of Ngake and Yato

776 lineages. It is likely, I think, that people of Ngake inter-marrying into Yato transferred their affection for Te Maungatu to Yato villagers, and that this
613 god gradually assumed a position of major importance for Yato lineages. Te Alongaoa, another Ngake god worshiped by men of Yato, may have been transferred to a village not his home village by the same method.

776 A second important duty of the attendant gods was to form a permanent guard for the reserve lands. Whereas the major gods came to the reserves only when trouble arose, the attendants were on perpetual sentry duty and
241 handled all smaller infractions of tapus on their own responsibility. The names of the groups of attendants for the various reserves are:

RESERVE	ATTENDANTS
Te Lau-loloa-o-Mataliki (Uta).	Te Malanga Atua Ya.
Te Nuku-loa-o-Mataliki (Motu Ko).	Te Maungatu.
Te Nuku-ya-o-Mataliki (Motu Kotawa).	Na Tualiki.
Te Niua-ya-o-Mataliki (Niua).	Na Wuatini.

The relation of the attendants to the reserves is evidenced by the example of Te Malanga Atua. These spirits lived in Uta all the time. Whenever anyone went to the reserve for illicit purposes, the attendants warned the intruder before he committed his illegal act; then if he persisted, they plagued him with threats. On certain regular nights of the moon, the Malanga Atua gathered together (*wakamalanga*) and visited in turn all the cemeteries in Wale, singing and dancing together at each cemetery. Sometimes they also visited humans in dreams. Through these visits and the noise of their ghostly merrymaking, humans knew that they were on watch.

776 Tapuaki was the name of one individual attendant god, who was the servant of Taua and who punished violations of the tapus of Uta with incur-
828 able debility. Under another guise Tapuaki was a mischievous spirit who promoted illicit sexual relations. Of a man well known for his sexual adven-
753 tures, the people say, "E tangata la no Tapuaki" (He is a man of Tapuaki). Tapuaki caused jealousy in women over extra-marital relations of their hus-
526 bands. He also caused nightmares by coming to a man or woman in sleep, twisting him up in the typical nightmare of constriction. In another phase of this spirit's duties, a man who wished to win at a spear-throwing contest threw a flower to the god at the place where he was traditionally supposed to live, close by the cemetery of i Tua. It was thought that Tapuaki made the opponent lose his aim by causing jealous thoughts in his mind at a critical moment.

776 The *tikitiki* attendants of the major gods seem to have been small animals such as birds. Thus in the story of the woman-seducing contest between Te
773 Awuawu and Ngaliyeyeu, Te Awuawu won because of the power of his *tikitiki*, a small bird. After the contest was over he loaned the *tikitiki* to Ngaliyeyeu to enable him to seduce Mulitauyakana, a difficult woman of surpassing

776 beauty. The woman was bathing in the water. The *tikitiki* pecked at her
kilt which fell off. When Muli rushed from the water to drive away the
773 bird, Ngaliyeyeu was waiting for her.

COMMUNICATION WITH THE GODS

[793] Communication with other-worldly powers was generally through the
medium of priests. Many times, however, a layman might procure the favor
782 of the gods, or the gods might themselves favor the man with a communica-
tion, without the medium of the priest. When warning of reserve violations,
776 the gods and attendants spoke directly to the person concerned. On the other
hand, to consult the ancestor god for fishing favors, the captain or any mem-
788 ber of a fishing canoe communicated the desires of his crew by performing
the *wakatato* ritual close to the religious clearing of the god. In *wakatato,* the suppliant stands up, sways his body back and forward and quickly beats the fronts of his thighs (*wakatato te tenga*) with the palms of his hands. This was believed to attract the attention of the god. Consultations of free lance gods or spirits were sometimes accompanied by a gift of flowers thrown on the ground where the god was supposed to be, or else thrown on the ground anywhere, with the idea that the god would see the flowers and recognize the tribute.

782 The technique of communicating a request to the gods Te Awuawu and
Ngaliyeyeu was different. The intercessor held a coconut-leaf midrib in the
788 air and addressed the gods as follows:

Te lua ule kaina e!	Two penises desirable to eat (a term of affectionate address), hail!
Te matangi mamino	(Make) the wind calm
Toka te vanga!	Subside the spacings (between the waves)!

Each time he reached the end of his request, he beat the butt of the midrib on the ground with a loud report to attract the attention of the gods. He repeated the plea and the noise-making until the gods listened to him and answered the request. This method of interceding with these gods was done anywhere and was as successful on sea as on land. That anyone might thus directly address these gods probably accounts for some of their popularity.

There is no record of any direct communication with the gods by family prayers, libations, food gifts, or dedication of children.

RELIGIOUS STRUCTURES

778 Communications to the gods by priests needed the instrumentalities of
religious structures: *yionga, owanga, wale atua,* and *potu.* The *potu* struc-
[776] ture, as distinguished from the sacred seat (*potu*) in a god house, was a
simple shrine. I saw none. The shrine of Lewele, the god of clams, was

778 described to me as a small raised platform of stones or coral pebbles, about 4 feet square, 2 feet high. Probably coral slabs were raised on edge and the 782 container thus made was filled with small white coral pebbles. When a man returned from clam fishing he stopped before this shrine. Raising a clam in 226 one hand, he addressed the god: "Leweke e, aumai te pipi kula, te pipi melo, te pipi waula ula; teia to tatau" (Leweke o, bring me—next time—red shellfish, brown shellfish, black shellfish; here is your share). He then threw his clam into the sea, toward a submerged rock a few feet from the beach. By this means he assured himself of abundant shellfish next time. A priest might also pray before this shrine.

The god house (*wale atua*), the sacred enclosure (*awanga yo*), and the 778 cemetery constituted an integrated unit for each lineage and its gods in the 613 functioning of Pukapukan religion. The sacred enclosure and the god house might be situated close together, contiguous with the cemetery of the senior lineage in the lineage grouping, or the three structures might be some distance apart. All three units, however, were on the section of land (*kaoa*) owned by the lineage. Each sub-lineage (*wakavae*) of the major lineage had its own cemetery, usually also its own god house; if the sub-lineage was powerful enough to control major gods it also had its own sacred enclosure. In any case, the number of the lineage's sacred enclosures and god houses depended on the number of major gods recognized by the lineage. The number of god houses depended further on the number of ancestor gods recognized by the lineage, for each ancestor god was represented by a sacred clearing (*yionga yo*) and each clearing had its associated god house.

778 The size of the god house varied with the number of sub-lineage units in the descent group which, with the number of lineage gods, determined the 346 number of priests that used the house. Each priest in the lineage had a seat next to a main ridgepost in the god house. Before and behind each post were sacred seats (*potu*), two to each post, for the priests to sit on. If there were twelve priests in the lineage, a house with six ridgeposts was required. The seats consisted of coral slabs placed on edge to form indifferently a round or square curbing about 9 inches high; the interior of this curbing was filled with fine gravel to form a low seat about 16 inches wide. The floor of the house was covered with fine white gravel.

778 Informants were not clear as to the degree to which the god house was tapu. Priests could go at any time to the house, which seems in many 793 respects to have served as a club house for them when they were not engaged in consulting their gods. Women could not enter the house, nor could the general populace sit, idle, or work there. An individual might go to the god house to consult or to take food to a priest. The priests themselves might eat in the house without desecrating it. At special times, the men of the lineage could go to the god house, as for a shoulder-wrestling contest held at

778 the end of the seclusion period for boys attaining adulthood. In general, it seems that the house was reserved for the exclusive use of the priests and 793 that others went there only on errands.

Besides priestly costume, peace "nets" (*kupenga welo*)—one associated 778 with each of the gods Te Laupapa, Te Alongaoa, Taua, and a forgotten Yato god—were kept in the principal god house of the lineages. One was strung 776 up at a meeting place by priests before the people congregated (p. 389).

The sacred enclosure (*awanga yu*) corresponds to the religious marae of other parts of Polynesia. Though no enclosure remains in existence today 778 the sites of several are well known; on two of these a few stones are still in position. (See p. 160.) In the center of the enclosure was the sacred stone [171] (*unu*), the material representation of the god, a solid piece of *punga* coral, of any size or shape. One side of the stone, arbitrarily called the face, was 346 turned toward the east. The priest stepped into the enclosure from one of 783 two entrances (*pu*), breaks in the coral curbing. One entrance was on the eastern (outer beach) side and was called *pu ki ngauta;* the other on the west or lagoon side was called *pu ki tai.* The priest advanced to the sacred stone, seated himself cross-legged before it and addressed the stone, and thus the god, in this position.

778 Under ordinary circumstances, no person other than the priest and his servant (*tauie*) was allowed on the enclosure. On set occasions, however, 793 men went there, as to the god house, to clean up the ground, pick up rubbish, weed, refresh the gravel, or rebuild the curbings. No women assisted at this 358 or any other time. No record survives of any ceremony designed to remove tapu from the enclosure so that the uninitiated might approach it. The routine cleanings were performed by the priest's servant who also acted as messenger for the priest.

778 Two worshiping structures are called *neuw*, not *awanga*. These are *te neuw o Tulikalo* and *te neuw o Te Mawngatu*. The meaning of the word *neuw* in this sense is not clear. Some informants believed that *neuw* is the name of the place where a god emerged from the Underworld when he visited the world of mortals. Others believed that because *neuw* is the name of attendant spirits, enclosures called *neuw* are those where attendant spirits of the major gods might be consulted.

The sacred clearings (*yionga*) of ancestor gods, were cleared avenues, bordered by coconut trees, which ran from the place where the man—later deified—was killed to the lagoon beach or, less frequently, to the outer beach. Clearings might be up to 100 yards long, and from 10 to 15 feet wide. They were kept weeded and cleared of rubbish. Clearings for ancestor gods were called *yionga tangata mate* to distinguish them from the *yionga ola* clearings erected for the sacred maid (*mayakitanga*) to walk on. Both types of clearings were made on land owned by the lineage sponsoring the god or the

778 sacred maid. Somewhere on the god's clearing, the god house was erected. This might be close to or on the place where the man was killed, though that site was more often commemorated by a stone or group of stones. Examined in old Ngake were two sacred clearings which ran together; at the place of intersection, two god houses were erected. Today, the clearings are mostly overgrown with bush, but some may still be detected by lines of coconut trees in otherwise naturally planted bush.

778 613 361 A list, furnished by Talainga, of the principal sacred enclosures and clearings of Pukapuka is given below:

VILLAGE	LINEAGE	SACRED ENCLOSURE	SACRED CLEARING
Ngake			Malangatiale Vakayala Kai-mamalu
	Mulivaitu	Tumulivaka ma Mulla Te Vayi Yawunga	
	Matanga	Te Matakiate ma Maloki-talangi ma Tumailangi Te Akongaoa Tulikulo	
Loto			Kai Te Atua-ngaato-uli Poiva ma Taukava Wakaluwiti
	‡ Tua	Matalikí ma Tuaayai Te Ulu-takapau Tupele Taua	
	Yangaliipule	Kai	
Yato			‡ Te Unutulale ‡ Lowia ‡ Kailia
	Yamaunga	Te Maungapia Taumalunga	
	Yalanga	Tawitonga Te Mangamanga	

MATERIAL REPRESENTATION OF GODS

778 114 The only representation of gods known to informants was the slab of uncut stone ([illegible]) that rested on the enclosure. None of these stones remain today. Some informants believe that one of the foundation piles of a copra shed on the Loto beach is part of the stone that formerly represented the goddess Taua; this is a big block of *punga* coral. It would seem that no god had a cut stone image; nor was there ever any god representation made in wood, sennit, or feathers. No reference to stone or wooden images occurs in any of the old chants or stories. Gill (10, p. 180), however, mentions that on his visit to Pukapuka after the natives were converted, he saw a great pile of rejected gods on the beach. In another place Gill (11, pp. 60-61) states

1;Beaglehole and Beaglehole E-5 (1934-5) 1938 Pukapukans

778 that on this same occasion "natives brought me a large collection of idols of
114 secondary rank." One old man approached Gill with a large lump of pumice, blackened by long exposure to rain and wind, which had evidently drifted to Pukapuka from some other island. The old man told Gill that the pumice was known as Ko-te-toka-mama (The Light-stone), evidently a descriptive name only, and "was regarded as the god of the wind and the waves. Upon occasions of a hurricane, incantations and offerings of food would be made to it." It seems likely that Gill was mistaken about the existence of Pukapukan images, if by this term is meant carved or shaped objects of wood or stone. Though Gill notes (11, p. 61) that he deposited this piece of pumice with other Pukapukan gods in the museum of the University of Sydney, I have been unable to trace their whereabouts today.

PRIESTS

793 A priest was generally called a *wata*. When in active consultation with his god in the god house he was referred to as a *tangata wai atua*. The following is the most consistent view of the choice, induction and duties of the priest:

> 793 The priest was chosen from the paternal lineage (*po*) which worshiped the particular god. The group of priests of each lineage seems to have served for two years and
> 613 then retired from active priestly duties. The retirement was marked by a procession (*wakayawinga*) in which a succeeding group of priests also participated.
>
> Qualifications for the priesthood required that a man be old, that he have appropriate dream experience and the requisite physical makeup which would allow him to
> 793 experience trances and other types of dissociated personality. A man tentatively selected to be a priest was required to spend the night in the god house of his lineage, no mean requirement if the god house was close to a cemetery, because the vigil keeper would
> 787 surely be plagued by *aitu* (malicious spirits of the dead). During his vigil, the initiate was expected to have some significant emotional experience that might be interpreted as contact with other-worldly powers—a dream vision, or a dream visit to the Underworld, or hearing the speaking of strange tongues. On the morrow the experience was reported to the body of priests assembled in the god house, who judged the validity of the experience and confirmed or rejected the candidate on the basis of its apparent authenticity. If the candidate was accepted, he joined in the procession (*wakayawinga*). It was suggested that from three to five men might be formally admitted to the lineage priesthood every two years. It is likely that the succession of the priests was governed by the *tai tangata* (birth group) principle and that the new priests were chosen from the twenty to thirty members of the birth groups for two years.
>
> 793 During the period of office, the priests lived exclusively in the god house, served by the attendants of this house. They devoted all their time to the service of the lineage gods by frequent consultations. They grew fat and sleek through this sedentary life. At the time of their retirement all the priests, both old and new, donned their priestly dress and walked in procession (*wakayawinga*) through the villages, visiting in turn all the god houses of the sub-lineages of the lineage grouping. This procession was held to coincide with the night of the full moon, the rationalization being that the priests were like the *tupa* (crabs and burrowing animals) which live in holes from
> [613] which they come on the nights of the full moon to go to the beach, bathe, and take on a new shell. Like the crabs, the priests emerged from the god houses when they retired. The time of the procession was one of great feasting for the members of the

[613] lineage. Processions and feasts were held at different times by different lineages, by one
lineage at one full moon, by another lineage at the next full moon, and so on; there
193 seems to have been no regular rotation of lineages.

After the procession, of which no further details are remembered, the retiring
554 priests went back to private life. Many were selected shortly thereafter by the old men to join their group, and continued as members of the old men's governing body (*tupele*) for the rest of their lives. Men who had served as priests did not necessarily lose prestige when they retired from the god house. Though they were no longer formal representatives of the lineage credited to the lineage gods, a large measure of validity still attached to their experiences as priests, and they retained the faculty, which they
might exercise when they wished, of communicating with the gods. This they did
[787 either in the privacy of their houses or out-of-doors, if the god had no enclosure or
shrine; at times they might even be invited to participate in god house or enclosure
156] consultations. With his powers and training, a retired priest might acquire great
prestige as a medicine man. As long as he continued to consult his god for medical purposes, he retained the title of priest and was popularly known as such. It is possible that the two-year term of office applied only to some priests and that certain more powerful priests, those with more practiced abilities to communicate with the god, continued to live in the god houses as supervising priests until their death.

Priests of the paternal lineages and sub-lineages were supported by fre-
196 quent food gifts from their relatives and from the people of the lineage. A
613 man who caught a *kakai* fish took a small portion of it to the priest as a sort of good-will offering. Food divisions from all types of feasts were sent to the god house. This general food subsidy was supposed to cover special consultations by individuals, but it was usual for a man who had gained great good fortune through the intercessions of the priest with the god, to remember the priest with a special food gift.

The priest consulted the gods to proffer requests for special favors from individual members of the lineage; to ask for help on the occasions of group lineage activities, such as voyages, fishing expeditions, fishing contests, and sport contests; to procure favors on the occasions of infrequent fighting, and, at times when supernatural support was needed, to check or eradicate antisocial conduct of a part of the community; to ward off punishment brought about by the violation of tapus; or to learn diagnoses and prescriptions for the treatment of disease, injury, and sickness. He communicated with the god either in the god houses or on the sacred enclosures of the lineage. Sometimes a communication in the god house preceded the enclosure communication, especially on the occasion of a formal enclosure ceremony when the people of the lineage were present.

193 The technique of communication involved one or two types of utterance
by which the individual apprised his god that he wished to contact him. The
188 method of *makatete to tonga* (thigh-beating ritual) was used for consulting a
lineage god away from a god house and for consulting an ancestor god on
187 the sacred clearing. The ritual of *lopo* was performed by the priest in the god house.

788 To *lupe*, the priest stood up with bent body, and advanced in a zigzag fashion, taking six or seven short tripping steps in one direction, then a similar number of
793 steps obliquely. This is called *wakauli te vae*. At the same time he beat his thighs with the palms of his hands (*wakatato te tenga*) and made with his lips a b r . . . r . . . r . . . sound as if imitating the call of the wild pigeon (*lupe te leo*). Alternately he knelt on his sacred seat and performed this ritual without the steps. After performing these acts for a shorter or longer time, the priest expected to be filled by the spirit of the god.
787 The spirit's manifestations were various: the priest's skin broke out in goose flesh (*kiikiia*); his head felt as if it were growing bigger and bigger; his feet moved
793 against his will, and he felt that he was walking on air. He might break into a violent sweat, accompanied by chattering of the teeth, moaning, or speaking in a distorted voice. Any of these manifestations was taken as a sign of the presence of the god. The priest might immediately speak aloud the will of the god, or else interpret his experience to the people when he returned to normal feeling.

771 Variations of this general pattern of god house communication occurred in enclosure ceremonies. The people of the lineage went to the sacred enclosure of the lineage god for general consultations when the lineage planned a large-scale fishing expedition, as formerly to Nassau or Tima reef; when it planned a fishing, wrestling, or other contest with the other lineages; when a bad sickness or epidemic affected the people of the lineage; when a foreign canoe or a white man's boat was sighted; when, on infrequent occasions, a lineage decided to set up a sacred clearing for a man just made a deified ancestor; and at the time of the morning rising of the Pleiades (Mataliki) when the lineage gathered for ceremonies to procure the favor of the god during the coming year. Members of the chiefly lineages went to their respective enclosures for the induction of a new chief or sacred maid; all the people of the island attended the induction ceremonies of the supreme chief on the enclosure of i Tua lineage.

796 A reconstruction from informant's accounts of an enclosure ceremony follows:

782 The people gathered at the sacred enclosure on the cleared common space (*awanga tanga*) that surrounded the tapu area. They grouped themselves around the outside of the coral curbing (*atinga watu*). Attended by the other priests of the lineage the officiating priest met the people if the god house was close; or, if it was distant, he arrived at the enclosure after the people were there. He was dressed in full priestly costume. Either the priest brought an offering (*lakei*) to the god or the people gave him one when they officially explained why they wished him to consult the god for them. Then as the people watched, the priest crossed the threshold of the enclosure at one of the gates (*pu*). He advanced to the sacred stone in the center and tied to the stone the offering. This was of coconut leaves if the consultation was for fishing contests, for aid in a quarrel, or for help in meeting foreign canoes. An offering of a pandanus malo or bands of *welo* bark (*wati welo*) was used for sickness consultations. In general, the type of offering depended on the priest's choice from the materials supplied by the people of the lineage to the stock of such god gifts kept ready in the god house. Coconut-leaf offerings seem to have been the most common. To wind the offering around the sacred stone is called *wakaipu*; to fasten the offering to the stone with a knot is *yele*.

796 After offering the *gift* to the god, the priest squatted, crouched, or knelt before
787 the stone and talked silently to the god. Presently he felt one of the signs that the

196 god was within him. While he was in this condition, the priest or an assistant tied
a second offering around the stone as a thank offering to the god for deigning to
187 notice the priest's request. The priest then went to the curbing of the enclosure and
gave the people patiently waiting outside the message of the god—that the god was
favorable to the request or that he advised such and such a course.

If the priest experienced no signs of supernormal power, he told the people that
the god was undecided whether to accede to the request, or else needed time to
consider what advice to offer. The priest then asked the people to go away, to discuss the
matter some more, and decide if it was really to be carried through. Meanwhile he
would try to communicate with the god a second time to expedite the decision while
the people were discussing the matter. If the people were inflexible in their
determination, they returned a second time and announced their decision. But if the god still gave
no sign, the people dispersed and the matter was dropped; alternately another god of
the lineage might be approached through another priest in the hope of procuring better
results. After the people dispersed, the priest returned to his god house. An attendant
[182] then removed the offering from the stone and took it back to the god house where it
was used by the priest, handed back to the owner if the priest had no use for it, or
stored for a future occasion. Coconut leaves were thrown away, but bands of *welo*
bark were kept for further use as offerings or as a head decoration for the priest.

With one exception, the pigeon ritual was not performed on the enclosure.
609 When a foreign canoe or a white man's boat was sighted, on each enclosure
182 on the island and on each god house, the priests performed the pigeon ritual
to the gods of the island. They put offerings on each sacred stone and
[118] prayed to the god to send the foreign vessel away from Pukapuka. This
the gods did at times by sending rain showers which blotted out the island
from the strangers' sight. Should the gods allow the foreigners to land on
the island they prayed that the gods turn the thoughts of the strangers from
mischief. In general, the priest was supposed to go to the enclosure in a
193 humble mood, inconsistent with the excitement produced by violent *lupe*
movements. It was perhaps difficult to produce a dissociated state without
187 the help of the pigeon ritual; thus the gods were more difficult to
communicate with in the enclosure ceremonies. But the procedure saved the
priest from making ready commitments to the people on behalf of the god,
with consequent blame if things went wrong, until he was sure that the
people were determined on their course of action. Then, after repeated
urgings, he could strive to produce the required symbols of god-favor as
quickly as possible.

182 A type of intercession mentioned in chants is termed *wakatuloutulou*. It
is given as the method of communicating with the gods in the land Yayake.
The suppliant advances to the stone of his god, and moves his body back
and forward as he says, "Tuloutulou te mea . . ." (Grant this thing. . .). This
type of body swaying was apparently never used in the worship of
Pukapukan gods.

193 Through his continual contact with other-worldly forces, the priest had
powers not generally possessed by the populace. His god gave him food in
mysterious ways, protected him from general and specific dangers, enabled

793 him to cure sickness, to see into a man and discover his secret sins, to see spirits and cope with their malicious ways. In the stories there are few examples of unscrupulous priests who used their powers to blackmail the community in order to gain advantages over the people, or to humble their rivals. Undoubtedly, in any dynamic community, the clash of personalities would lead some priests to be more unscrupulous in the use of their powers than others, but this seems to have been rare.

People and Gods

613 776 Each lineage possessed exclusive rights to consult certain gods, and a man would never think, under ordinary circumstances, of consulting the gods of a lineage not his own. Within the one household, however, where the wife or relatives came from another lineage, the household head would be able with propriety to derive assistance from several gods by allowing members of his household to consult the gods of their own lineages in important household occupations. Minor gods were often worshiped by people of several different lineages, but this was due to historical accident now forgotten. General departmental gods, like Tamayei, though belonging to one lineage, received offerings from all the people because of their relation to the welfare of the whole island. In consultations of these gods as well as of Mataliki and Taua, the people of the island were always concerned; they watched the consultations of the supreme chief or his executive but would not themselves participate in any way in such consultations. Finally, the lineage gods that control fishing and weather were prayed to by any lineage making a fishing expedition or a canoe voyage through the priest of a god who procured the god's favor for them. In the canoe voyage, it was advantageous to have as a member of the crew a priest from the lineage that controlled the sea and weather gods.

LIFE AFTER DEATH

The Soul

774 775 761 The Pukapukan concept of life after death is intimately linked with the idea of the soul. In sleep the soul (*mauli*) leaves the material body and wanders about the land. It meets other souls with which it sometimes quarrels; in the fight that results one soul may be killed. It cannot then come back to its material body, and when the individual wakens the next morning, he is without his soul. He quickly sickens and dies, because the material body cannot exist without its spiritual counterpart.

774 The soul wanders round with all the desires and emotions of the body, but without a material covering or embodiment. It lacks the clarity of awareness and understanding that it has when embodied in a material sub-

774 stance. When the gods caused man to descend from the god Mataliki, they were afraid to give his soul full awareness, because once it left the body enjoying full awareness, it would never come back, and the body would thus be superfluous. The gods therefore ensured that the soul would see the world in a misty fashion only, that it would be afraid of daylight and thus would have to see the world always under cover of darkness. The soul hurries home at dawn. Dreams are often indistinct and easily forgotten because the soul is not clearly aware of the adventures it has when it wanders [755] about in the night. Medicine men (*tangata wotu*) who had the power of seeing souls in the dark often killed them on the theory that they were up to some mischief, causing sickness. Hence the soul always tried to avoid the medicine man in its nightly perambulations.

775 After death of the material body for whatever reason, the soul is finally released for all time from the body. It journeys to the Underworld, where it takes up permanent residence and enjoys the full pleasure and awareness denied to it in the upper world. There is no question of reincarnation, because the soul will not readily resume the bondage of the body after tasting the delights of full awareness in the Underworld. The gods may intervene to return the soul to the body after a short sojourn in the Underworld, [774] usually at the supplication of those mourners left on earth, never at the supplication of the soul itself.

THE COSMOS

772 The Pukapukan idea of the cosmos, complementing the ideology of the soul, is that the cosmos consists of three major levels, indefinitely extensive flat surfaces. The level of this world of humans comprises *te papa wenua* and *te papa moana*, the level of land and of sea. Above is *te papa langi*, the level of the sky. The sky meets land or sea at the horizon, which is thought of as the side of the sky, *te tawa o te langi*. The sky therefore limits the indefinite expansion of the earthly levels. Below the level of this world is the Po, the Underworld, itself made up of three further indefinitely extensive levels, *te kapi lunga, te kapi lalo,* and *te po likuliku*. No limit to these levels is known.

THE UNDERWORLD

775 Pukapukan knowledge of the Underworld (fig. 54) is derived from the visit made by Wotoa and Te Yoa, two seers, who figure also as the heroes 154 who rid Pukapuka of the god-ogre, Te Atua Pule. Neither of these brothers comes into the genealogies. The account they brought back was supple- 539 mented by dream visits of other seers to the Underworld at later dates, and by dreams of laymen. The account of the visit of Wotoa and Te Yoa is as follows:

439

One day the two brothers came to the outer beach of Ngake village to bathe and swim in the sea at the place known as Te Ava-o-Te-Palo. They hung up their coconut-leaf malos on a banana tree and entered the water. They swam out to the reef shelf and were disporting themselves there in the breakers, when all at once, they saw a huge wave rise up. It opened out and uncovered a big hole, The-entrance-to-the-Po, into which the two men stepped. The wave closed over them again, and they found themselves in darkness. There was a path running down, but it was very dark, very steep, and very slippery. This was the path to the Po. A guiding thread of sennit ran downward along the angle of the inclined path. Te Yoa did not wish to venture down the road, but Wotoa, more courageous, was determined to go, and persuaded his brother to come with him. He told Te Yoa to walk closely behind him. When Wotoa lifted one foot, Te Yoa was to slip his own foot into the foot print; and when Wotoa lifted his other foot, Te Yoa was to advance his second foot to the vacant place. In this way, Te Yoa would be able to walk with safety: Wotoa, going first, would take all the risks.

715

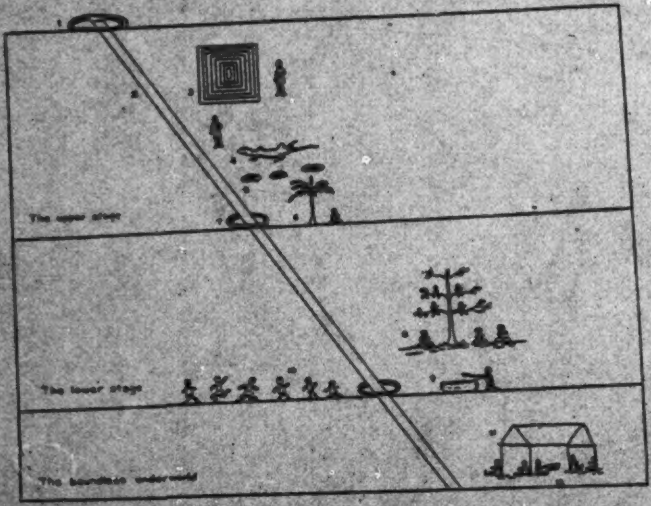

FIGURE 54.—Pukapukan Underworld (Po), from a drawing by Talainga. 1, entrance to first stage of Underworld (*te kapi lunga*); 2, road to Underworld; 3, eight-walled structure of the god Te Vayi (*te pa a Te Vayi*); 4, lizard (*moko*) and its guardian god Loke; 5, fresh water springs (*na vai no te po*); 6, coconut tree of Malu and its guardian god Malu; 7, entrance to lower stage (*te kapi lalo*); 8, *puka* tree of god Tangi, women who have borne children sitting in branches, childless women sitting on ground below; 9, musician god Tulikalo playing his gong (*wawa*); 10, group of gods dancing to music; 11, house of many posts of goddess Leva (*te wale pou tinitini o Leva*); 12, goddess Leva plaits her mat while other gods rest against house posts awaiting coming of spirits of deceased Pukapukans to Underworld. Talainga has omitted banana tree of god Mulua, oscillating stone of Yokamani, talo gardens, coconut groves, and ocean that surround house of Leva in the boundless Underworld (*te Po Ikulihu*).

539

After stumbling along this path, the two came out on a flat space where they saw a giant lizard (*moko tuale*). Te Yoa cried out in fear at this apparition. Both men prayed to their god to help them, and when Wotoa lifted his foot to scare the lizard, it closed its gaping mouth, and the two men walked quickly and safely past it. They came to the banana tree of the god Mala, then passed on to the pools of fresh water (*te vai no te Po*), where they washed themselves. Going farther, they came to a coconut tree (*te niu a Mala*) cared for by the god Mala. A number of gods were sitting round this tree, and the two brothers were pleased to be able to pick out the gods they were accustomed to worship on earth. The gods inquired about the visitors and were surprised to hear they were mortals and not souls. Wotoa said he was thirsty, so a god climbed the tree and threw down nuts which the god Te Awarevu husked for them, and which the god Ngaliyeyen opened and apportioned between the two mortals. The gods joined them in drinking a nut and then left to go elsewhere. They had been picnicking in the shade of the coconut tree.

Passing on, the brothers came to the stone of Yokamani, which is just by the opening to the lower level of the Po (*te pu ki te kapi lalo*). A spirit rested on this stone which Yokamani oscillated, so that the spirit lost balance and fell into the *kapi lalo*.

The brothers passed down to the *kapi lalo* and saw the *puka* tree planted by Tangi, guarded by the god Lolo. On this tree were the souls of recently deceased Pukapukans. Children were sitting in the branches of the tree, mothers were sitting on the ground, and other souls were hanging strangled in the nooses (*matapili*) that hung from the branches. Still other souls were hunting about the ground for lizards to give the gods to eat.

Going farther, the brothers came to a place where there were many more gods all wearing their hair nicely plaited on the top of their heads. From this Wotoa and Te Yoa got the idea of making hats of plaited pandanus, and that was the origin of hat making in Pukapuka. [Plaited hat making was not introduced into Pukapuka until after white contact.] The gods were all dancing, chanting, and playing games. Tuli-kalo, the musician god, was playing on the wooden gongs. The brothers listened and watched and were thus able to introduce to Pukapuka the dances, games, and musical rhythms they heard and saw.

Wotoa and Te Yoa passed on until they came to the Po Mailiku, where they saw a big round house with many thousands of wall posts (*te tuala pou tinitini*), one post for each member of the population of the Po to rest his back against when he wished. This was the house of the goddess Leva. Round the house stretched groves and groves of coconut trees and huge beds of talo, called *Te Ui-o-Lepia*. A little way off was the ocean (Te moana-o-Tupepe) where the gods and spirits fished and sailed canoes. Inside her house Leva sat plaiting a mat. The brothers learned how souls often get caught in this mat. [On the basis of their report, qualified by the account in the story of Milimili, some say that Leva ensnared souls in the mat which meant that they lived in the Underworld forever; others say that the gods insisted that Leva incorporate in the mat elements all the souls that they smelled out, but that Leva sought to hide the souls under the mat until lineage gods had an opportunity to crawl under the mat, abstract the souls, and return them to the upper world.]

The brothers stayed for a long time in the Underworld, looking at all the wonders. At last, however, they began to long for the familiar delights of the upper world. They went to Ngaliyeyen and asked him to help them return. Ngaliyeyen agreed and went before them to guide them past the perils of the road. They climbed up the path, and when they reached the top a wave opened up. They stepped onto the reef and waded ashore onto Wale.

The people meantime thought they had been drowned. They had found their pareu hanging from the banana tree by the beach; when the two did not come back from their swim, it was reported that they had been carried out to sea by a big wave. So all the people were mourning them as dead. When they stepped onto the beach, the

539 people rushed round them to hear of their adventures. They told of their journey, and later introduced to Pukapuka all the activities—arts, crafts, and games—of the Underworld. From their visit, supplemented by voyages abroad, is derived all the knowledge of the Pukapukans in these arts.

775 Other priests who visited the Underworld brought back the knowledge of talo food preparations, of which the original inhabitants of Pukapuka were unaware. Perhaps, say informants, this coincided with the reintroduction 154 of fire to Pukapuka by the god Ngaliyeyeu after the seismic wave. The seer Levi, who lived just prior to white contact, is said to have shown the people of Pukapuka many times the food—fish, talo, and nuts—that his spirit brought back to him after one of its visits to the Underworld.

Some visitors to the Underworld have reported the existence of an eight-walled enclosure on the *hapi lunga*, presided over by the god Te Vayi. In this enclosure was kept burning a hot fire, into which adulterers, for example, are supposed to have been thrown by Te Vayi. Confirmatory evidence for the existence of this walled enclosure was given by seers who told relatives of the dead that they had visited the Po looking for the souls of the deceased, in order to bring them back to Pukapuka, but that they could not discover the souls and therefore assumed that they had been consumed 317 in this fire. It is possible that this legend of a fire burning in the Underworld represents a survival in Pukapuka of the widespread Polynesian idea 171 of an underworld fire visited by a culture hero who brought fire back to mortals, an idea that has perhaps been affected by missionary teaching.

The souls of living, dying, or dead men that visited the Underworld seem 774 to have had about equal chances of escaping back to mortal body or being 775 ensnared in the Po and remaining there forever. Each of the stopping places mentioned by Wotoa and Te Yoa was either a place which reminded the soul of the world it had left, giving it the opportunity to go back before it was too late, or was a trap designed to catch the unwary soul and so draw it on ever deeper into that part of the Underworld from which there is no return. Perhaps this idea of equal chances is a reflex of the number of times Pukapukans have seen unconsciousness in sick people unaccompanied by heart cessation or decay of the body. If, for instance, the soul balancing on the oscillating stone of Yolamani was not precipitated into the Po likuliku then it still had an opportunity of returning to the upper world. But the soul that washed in the fresh water springs washed away all memory of the upper world, and its chances were proportionately less. When the soul reached the house of Leva, the gods smelled its arrival, and always anxious for fresh company to amuse them with stories, singing, and dancing, they insisted on taking the soul from Leva's mat. This represented the ultimate depth of the Underworld from which there was no returning, or at least

774 from which there is only one story of a return, that of Milimili who was assisted by the gods, Tulikalo and Tangata-no-te-moana.

775 When a new soul became finally imprisoned in the Underworld, it was welcomed by all its deceased relatives, who came forward and provided a feast for the new spirit. There were no class distinctions in the Po; hence there was no special reception or treatment for a chief. Spirits did not grow old or mature in the Po. People who died old were looked after by relatives who had died young. Babies never grew up. The old cared for the children, and the young men and women provided food for the rest of the community.

775 Final knowledge of the Underworld before white contact was derived
539 from a visit of the seer Levi:

> One night Levi heard certain sounds of strange music which he diagnosed as slit gong beats of a rhythm unknown on Pukapuka. The music was obviously coming from two wooden gongs played by a skilled musician. Levi decided to follow this strange music, so (in a trance) his soul left his body and journeyed to the Underworld. It came to the place where the gods were merrily dancing to the rhythms of Tulikalo. Levi watched in admiration the skill displayed by this god as he beat out the most intricate rhythms. Levi admired also the beautiful gong sticks of polished ironwood and longed to possess these for himself. Levi drew near the god, and, profiting by a sudden diversion of attention, snatched the sticks from the place where Tulikalo had laid them, and sped back to Pukapuka. Avoiding all entanglements, Levi duly arrived on Wale. In the morning he showed the sticks to the people, explaining how he came into possession of them. One stick was later lost, but the other is in Pukapuka today, doing duty as a knife handle.

MAGIC

789 The use of black or white magic in Pukapuka was apparently extremely rare in former days. Most of the many references to white magic in the
776 stories refer to the power exercised by the gods to protect or otherwise serve their worshipers. The gods were communicated with and asked to do these
782 favors through the ordinary method of prayer (*takutaku*). The priest Pakai is said to have procured favors from his god by making some use of *welo* bark streamers on his headdress, but whether these streamers were used as a sort of bait object, no informant could tell. Two examples of white magic involving the use of bait objects are found among the stories: Vaetuanin endows a coconut midrib with the power of speech by spitting into a coconut cup which he places on the midrib; the chief Tuyiyauola, in Yayake, has a woman bear him a child by putting some of his semen in a coconut cup and floating it over the water to the woman who rubs it over her body (p. 381).

No white magic technique was remembered by informants. The Polynesian word *karakia* is not found in the Pukapukan dialect. The word *talotalo*, however, means an incantation, in the sense of a spell which magically causes a desired result. The only example of a *talotalo* that informants could recall was the one used by Yimata to put together again the tree chopped down by

789 Lata (1). As has already been mentioned, little use was made of white magic in economic activities.

793 The only black magic indulged in seems to have been based on suggestion; no bait objects were used. A priest might silently or orally curse a
754 man with sickness, or else pray to his god either to send an evil substance to eat out an enemy's vitals or send an evil familiar spirit, the spirit of one newly dead, for instance, to enter a man for the same purpose. This was done solely through the power of the priest to communicate with the god and not by using or working upon material objects. When it was known that a man had been thus mentioned to a god by a priest, the man would sicken unless he could get another priest to apply to another god for counter-protection.

775 Mention has been made (p. 328) of the nooses (*matapili*) that Wotoa and Te Yoa saw hanging from the *puka* tree of Tangi which were used to
774 trap and strangle spirits. Gill reports that he procured from Pukapuka an "erevaerua" (soul trap), which was used by the priests in the upper world to
114 trap the souls of living victims (pl. 6). Gill (10, p. 181) writes:

> 754 If a person had the misfortune to offend the "sacred men", or were very ill, a soul-trap would be suspended by night from a branch of one of the gigantic laurel trees (*puka*) overshadowing his dwelling. If the family enquired "the sin for which the soul-trap was set up," some ceremonial offense against the gods would of course be assigned. The priest would sit opposite watching. If an insect or small bird chanced to fly through one of the loops, it was asserted that the soul of the culprit, assuming this form, had passed into the trap. The demon VAERUA,[39] or "spirit" presiding over the spirit world, was believed to hurry off the unlucky soul to the shades, to feast upon. It would speedily be known throughout the island that So-and-so had lost his soul, and great would be the lamentation.
>
> The friends of the unhappy man would seek to propitiate the sorcerer by large presents of food and property, begging him to intercede with dread VAERUA for the restoration of the soul. This was sometimes accomplished; but at other times the priests reported that his prayers were unavailing, and VAERUA could not be induced to send back the spirit to reinhabit the body. The culprit fully believing all that the priest said—was he not the mouth-piece of the gods, and cognisant of the secrets of the spirit-world?—gave up all hope. His friends mourned over him as one dead; and at last the poor fellow faded away through sheer mental distress at having his spirit ensnared.
>
> In cases of mere sickness, where the friends were anxious to know whether the sick man would get well again, if the priest reported that his spirit did not enter the snare, it was inferred that he would recover.
>
> I enquired why some of the loops were so large, whilst others were so small. The "sacred-man" said to me, testily, "Don't you know that there are different sorts of souls—some small and others large?" I understood him to mean that the large loops were to entrap the souls of adults, the smaller ones to catch the souls of infants. The words used would imply that the large loops were for the souls of chiefs, and the small ones for the souls of common people.

The Pukapukan for *ere vaerua* would be *yele vaelua* (noose spirit-like or spirit-like noose), but the word vaelua would rarely be used in this sense; a

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[39] Presumably Gill here refers to the departmental god, Te Atua Vaelua.

775 more correct name would be *yele mouli.* Many informants were repeatedly
questioned about this soul trap, separately and together, and all agreed that
774 Gill must have confused a bird trap or bird noose which he saw hanging to
a tree with the story he heard of the *matapili* noose in the Underworld. One
114 type of bird noose, *yele manu* (fig. 4,*b*), consisted of loops of sennit suspended from a *puka* tree. It is significant that Gill talks about a birdlike
754 representative of a soul passing into the *ere vaerua.* It is likely, I think,
that in order to blacken the past, a convert made for Gill what he said was a
soul trap. From the old chant, "Maka taku kupu ko te tonoanga", informants quoted the following phrases to confirm their point that the noose was
[186 used in the Underworld only:

Na yelea ko te talakelake	You were tied to the *talakelake* tree
539] Wakawiwi ake te mauli, koa mate, koa elo	(Your) soul was tangled (in the trap), died, stank,
Wakatautili ai taua i te pu o te puka a Tangi,	We were both thrown to the foot of the *puka* tree of Tangi,
Wakaulu ko te wale poutini . . .	Entered the house of a thousand posts (the house of Leva) . . .

If the soul trap was really an instrument of witchcraft, as Gill was assured, then it acted through the force of suggestion. The priest did not work over the insect or bird that passed through the noose with incantations in order to provoke sickness or death.

789 Several informants were questioned on different occasions as to their
knowledge of black magic. Examples of black magic in western Europe
were adduced to give them confidence, but even this lead got no results.
Even if informants have willfully forgotten material on sorcery which must
754 to them smack of heathen practices, one might expect some survival of precautions directed against sorcery in the treatment of objects closely connected with the person. But the Pukapukan customs governing the disposal of objects charged with high personality tension, as compared with customs elsewhere in Polynesia, where fear of sorcery led to rigorous tapus or the disposal of such objects, indicate that there was extremely little fear of sorcery
754 in Pukapuka:

514 The sea took care of adult excreta, and of most child excreta; no precautions are
taken today to dispose of excreta of children too young to go to the sea. Adults expectorate anywhere. Finger and toe nails are cut anywhere; formerly they were bitten
302 off and spat out onto the ground. According to informants, the hair was rarely cut
during life, and was worn long by both sexes. Some informants said that hair clippings
were buried; others said that hair was often cut from a dead person, particularly from
the head of a deceased favorite child, and the hair plaited into a malo or else into a cord
[262 by which pearl-shell ornaments were hung on the breast. Formerly, if a woman's hair
fell into food, the food was considered spoiled by this contact. When a tooth pained,
157 it was pulled out, taken to the god house of the lineage and deposited there with a
prayer to the god of the lineage that he send a new tooth to replace the one thus given
292] to the god. Old clothes were burned or used as rags. Today clothes are worn to rags

f. [See p. 64, category 116 — analysis]

757 and then allowed to lie about until they are needed as waste cloth. The soiled sleeping mats of adults may never be used by children, lest they be made sick by contact with
292 the stains. There is no other precaution adopted about sleeping mats or sitting mats; these are used by members of the household or visitors.
352

GHOSTS

775 The fear of ghosts (*aitu*, old term; *yitolo*, modern term) is all-pervading in Pukapuka. Not only children, who are brought up with a fear of ghosts,
753 but adults also are thoroughly afraid of them and their power. Children are never left alone in the night lest ghosts worry them. In times of sickness, ghosts are supposed to be particularly troublesome, and it is necessary at these times to be especially careful of the well-being of ailing children, who are not left unguarded even during the day. Ghosts are believed to cause sickness.

SICKNESS AND HYGIENE

IDEOLOGY

753 The Pukapukan had no conception of the physical causation of sickness or physical disability, unrelated to immoral, sacrilegious, or antisocial beha-
577 vior of the afflicted individual or his relatives. Sickness was sent by gods or by malicious spirits (*aitu*), in order to punish or revenge the breaking of
784 a tapu, or other antisocial behavior. Punishment by sickness was considered perfectly just, even though the sick person had himself committed no infraction of tapu; all the members of the guilty one's family or household group were jointly responsible.

Types of antisocial behavior punished by sickness were infractions of the following: economic tapus, through non-observance or stealing; rules governing the disposal of property at death or general economic contracts; rules governing the treatment of wife, children, relatives, and old people; sexual tapus, committing of incest, adultery; obligations based on kinship or friendship relations; and tapus on religious or ceremonial objects and structures.
761 Deaths caused by suicide or homicide, or resulting from injuries received in homicidal encounters were the only ones for which a material cause, unaf-
784 fected by spiritual interference, was recognized. Even here, however, a closer analysis would probably show that death or injury was due to the withdrawal of protection by the god from one of his worshipers because the worshiper had at some time violated rules.

752 Sickness in general was *maki atua* (god-sent sickness). Special names for types of sickness sent by gods, were: *maki hai kiho*, sickness caused by
753 incest; *maki atua kino*, sickness caused by ancestral spirits. No single word
776 applies to accidental injury, which is given a descriptive term, as *maki no te yuuenga o te atua ki lalo*, sickness resulting from a fall from a tree caused by a god.

753 776 The treatment of tapu-breaking by the god Te Mangamanga was various: theft of *ngangie* wood, talo, or nuts in his province, Te Mangamanga punished by closing the thief's ears, causing deafness and earache; or by blocking up the bowels, causing constipation and intense internal pain; or by stopping the flow of urine, causing death. Te Mangamanga entered the stomach of a person who ate an unauthorized nut, along with the nut flesh, and ate all the food in his stomach so that the culprit suffered from a perpetual hunger that nothing could satisfy. If a man passed the outer beach of Niua taking a short cut, then Te Mangamanga made his ears stiff and large or soft and crinkly, so that they flopped over the ear hole and blocked the sound.

Gods might send familiar spirits to cause sickness, or they might insert alien substances or animals into the body. Familiar, foreign, or malicious spirits that cause sickness by plaguing the body are *aitu tutukoa* or *aitu kuku*. They come to a victim at night, embrace him with their arms, and cause strangling, nightmares, physical injuries, occasionally also conception in women.

753 Disease-causing objects are called simply *mea wakalialia*, horrible things. Any of the following might serve as such an object:

> *Wanewane*, anything twisted, bumpy, or imperfect; *nimo*, anything tangled; *vana*, a sea porcupine; *loli*, bèche de mer; *kalomea*, species of sea anemone; *matua kalou*, variety of sea cucumber; *kalou*, eel; *weke*, octopus; *aluyina*, sea porcupine; *uluyele*, variety of star fish; *unakea*, univalve shell; *kamu*, another univalve shell; *kana*, a seaweed; *pupuhenu*, a rank seaweed; *pikipiki*, dried coconut husks; *uga*, hermit crab; *kaipea*, a crab; *kaveu*, a robber crab; *kalami*, white crab; *popolonga*, cockroach; *molokau*, milipede; *veli*, centipede; in general, all the different animals and objects of land and sea that bite, snap, prick or are twisted.

MEDICINE MEN

756 759 Sickness was treated by medical practitioners known as *tangata yila*, *tangata wotu*, and *tangata yivayiva*. The *tangata wotu* or *tangata yivayiva* was a person expert both in diagnosis and especially in massage and treatment. The *tangata yila* not only possessed those powers, but also was able, by virtue of special gifts, to seek out, see, and kill familiar spirits, invisible to the ordinary eye. A few women practiced medicine; their functions did not differ from those of their male colleagues. *Wotu* of both sexes were general practitioners; there was little specialization, save in terms of specific dream experience.

All medicine men derived their powers from their possession of *manamana*, best defined as extraordinary ability or skill possessed by a chief, warrior, priest, or seer because of his specific association with a god or a familiar spirit. The Pukapukan word *mana* is applied only to a popgun. The concept of tapu is expressed by the word *ya*, that of freedom or commonness, by *tanga*.

The secrets of the profession of the medicine man (*wotu* or *yila*) were

756 not hereditary. Each practitioner started afresh. Induction into the ranks
came through dream experience, believed to be given the man by the god of
787 his lineage. The dream (*moe*) was either of a medical nature, or in some
759 other way made plain that the dreamer was chosen by his god to cure sickness.
In some modern dreams recounted in Pukapuka, the lineage gods as
154 causative agents were succeeded by European doctors of medicine. An example
177 of this is the following dream recounted by a native doctor:

> [159] One night I had a dream in which I was taken to a *wale maki* (hospital). It was in Tahiti, I think, though my body was in Pukapuka. I saw two *tumunga*[19] *maki* (doctors) in the room. One man, who was the chief, was standing beside a bed, the other man was leaning over someone lying on the bed. The one leaning over the bed straightened up as I came into the room, came close to me and said, "Come with me, e tolu mouli (O pupil of my eye)." Then we three approached the bed. The chief doctor said to me, "I will show you how to treat sickness. I will show you all the parts of the body, so you will know what sickness is." Then the doctors showed me the two methods of *lomilomi* physical therapy. They cut open the body and pointed out to me the various organs, told me of the sickness affecting each part, how this sickness could be diagnosed, and how treated. These doctors were white men. After they showed me everything, they told me to go back to Pukapuka, but to dream of them any time I wanted assistance. I woke up in a normal condition, wondering why I should have been selected for this dream.

756 This informant had several dreams in which he has both procured status
787 from, and asked information of, white doctors when called to treat sicknesses
177 he could not understand. He did not use any technique to have these dreams. The old pattern was evident in the feeling of the initial dream that further contact with the source of inspiration could be obtained when meeting with unfamiliar types of sickness, though the medicine man of old consulted his lineage gods in every case of sickness brought to him, whether familiar or not.

752 For his services, the medicine man was paid whatever the patient thought
554 fit. A small food gift was usually sufficient. He received ample recompense for his trouble in the social prestige that accrued to him as a prominent individual of the community.

CAUSATION AND TREATMENT

755 For treatment in former days, the sick person sent for or more fre-
787 quently went to the house of the medicine man, who questioned the patient about the sickness, the location and nature of pain. After the first diagnosis the medicine man consulted the gods of the lineage or the special gods of medicine by whom the sickness might be cured. Communication with the gods was held in the house of the medicine man and in the presence of the patient, or in the god house of the medicine man if he were at the same time a practicing priest. The technique of communication was by the pigeon-

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[19] The Pukapukan word *tumunga*, [illegible] of [illegible] [illegible] (expert), is now applied to white medical specialists. It was formerly not used in reference to priests, seers, or medicine men but was an ordinary adjective denoting skilled, expert, applied to any other art or craft.

755 sounding (*lupe*) ritual, or by the continuous chanting of songs. When he
felt the god within him, the medicine man in his trance state told the god of
787 the sickness; in answer, the god told him the cause and the treatment to be
followed. The medicine man then took steps to treat the sickness.

A typical case of sickness caused by the direct intervention of a god was
755 given by Pau:

> A man, Y, injures me in some way or other, whether physically or mentally as by
> 753 ridicule. Wishing to avenge myself, I consult a god of my lineage. If the injury is trifling and the desired revenge slight, I speak to the god anywhere; if the injury is serious, I ask a priest to intercede for me, or if I am a priest, I intercede for myself. According as he views the matter, the god will listen to my request and send or not send sickness. If the god decides to make Y sick, he himself or one of his attendant spirits obtains a disease object, which he causes to be inserted in the body of Y, either through the mouth or the anus. The introduction of this foreign body causes sickness by twisting up, gnawing at, or sticking into, vital organs. Y now falls sick, and calls into consultation a medicine man, who, after a digital exploration of the parts affected, diagnoses the trouble. The medicine man consults the god of his lineage, and procures instructions for removing the foreign body from the patient. With his fingers he squeezes the patient's body and draws out the foreign object. He keeps his hand closed, lest the object try to escape back into the body, but the patient's relatives gather round and feel the hand of the medicine man so as to be assured that the object is really inside it. Then he crushes the disease object and throws it into the fire, so killing the spirit that entered into the object within the patient. Y should now get well.
>
> Y may or may not know the reason for his sickness, but informant was positive that Y would not attempt counter revenge without great provocation. The best technique for Y to employ is to pray to his god for extra protection in future. If Y was made sick on subsequent occasions or if he died from sickness, then provocation would be sufficient for his relatives to pray for the punishment of the offender.

753 The cultural theory was that a man should not dare to intercede with
his god to revenge a sickness without real provocation. One who did so on
776 a slight pretext was termed *tangata lepu atua* (one who violated the sanctity
of the god). The god was thought to become angry when called to attend
to matters beneath his dignity; he might well become so angry as to send
sickness to the *tangata lepu atua* instead of the desired victim.

A malicious spirit (*aitu*) who inflicted disease on a living person to
775 avenge injury received during life, usually to revenge himself on relatives
753 who had neglected him in his old age, stolen his nuts, given him inadequate
food, ill treated him, or neglected to bury with him his valuable fishhooks or
ornaments, acted in the following way:

> The spirit carried a disease object to the body of a relative or enemy, so causing the illness of which he had himself died—a diagnostic point of importance for the medi-
> 755 cine man. When the patient consulted the medicine man he inquired whether anyone had recently died of the same disease from which the patient suffered. If so, there was strong presumption that the deceased's spirit was causing the trouble.

The method of treatment was the one already described, with the following variations:

755 On being consulted, the god searched for the presumed sickness-causing spirit, which he showed to the medicine man, asking whether the sickness from which the spirit suffered was the same as that of the patient. Receiving an affirmative answer, the god held the spirit fast while the medicine man beat it to death. The communication over, the medicine man explained matters to the patient and withdrew the foreign thing from his body. The patient recovered with the knowledge that he would never again be troubled by that spirit.

755 The seer Levi had a great reputation as a killer of spirits. The story of Yawani illustrates his powers:

775 Yawani was a man from Tongareva who lived in Pukapuka at the time of the early missionaries. When a female friend of his wife died, Yawani sought permission from
773 the pastor to bury her in Tongarevan fashion, in a boxlike stone grave above ground instead of underground in the Pukapukan manner. The pastor refused permission and insulted Yawani. Some days later Yawani went to Motu Ko to cut down a tree for a canoe. The branch he was cutting broke suddenly; a sharp point entered his body and disemboweled him. He died of his injuries. His soul began to wander over the island trying to cause sickness.

Once when the people were sailing across the lagoon to Motu Ko, they saw a ripple of water (*pipi te yua*) going in front of the canoe. Levi, who was on one of the canoes, said that he could see in the ripple the soul of Yawani. Soon after this the pastor's wife became sick. The pastor was convinced that it was the spirit of Yawani causing the sickness. Prayer was of no avail, so the people asked Levi to deal with the *aitu*. Some time later Levi was looking over the lagoon when he recognized the soul of Yawani moving along the reef from Kotawa to Yato. Levi performed the pigeon (*lupe*) ritual and called on his gods to help him wrestle with the spirit. By the time it had reached the causeway, Levi's gods had rallied to his aid. The gods surrounded the *aitu* so it could not escape; Levi rushed at it with a stick and struck it several times. Some blood fell on the ground (and teeth and a head as well, say some!), and this was taken as a token that Levi had killed the spirit. Further proof was that the pastor's wife got well and the soul was never seen again.

753 The third type of disease-causing spirit, spirits from a foreign land (*aitu tutukoa*, mischief-making spirits), specialized in causing epidemic diseases.
776 They were not spirits of Pukapukan dead, but spirits of dead people in foreign lands or of foreign gods. Some say that these spirits came from islands to the east or west of Pukapuka and lit on the island out of pure mischief. Others believe they came with a canoe load of visitors or drift voyagers, and then attacked the Pukapukans, for the visitors were immune to their own
755 gods. At any rate this was a point to be considered by the seer in diagnosing apparently epidemic diseases. All the seers consulted their gods on the sacred enclosures to learn whether the diagnosis of *aitu tutukoa* was correct. If the diagnosis was confirmed, one seer was chosen to deal with the spirits.

The seer communicated again with his god, who then accompanied him on a visit round Pukapuka. The god had with him his weapons: the lightning, the sun, the stars, the water. When the two came across a spirit, the god poured water about it so that it could not escape without being drowned, then blinded it with lightning, starlight, and sunlight. While the *aitu tutukoa* was thus helpless, the seer beat it with a stick until it was dead. The seer could then inform the people that the matter was over. If the disease did not immediately disappear, then other *aitu tutukoa* must be at large and the cure was continued until all were put out of the way.

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783
In case of severe illness where neither treatment nor consultation with the gods seemed to help, the medicine man might recommend holding a general confessional over the sick person. He might also recommend in a case of difficult childbirth that the parturient mother confess. (See p. 273.) The object of the general confessional was to bring to light concealed sins among the patient's relatives, sins which might be retarding recovery, or for which the sick person might be suffering. The confessional survives today. We were present at one held over a sick child, an only son, aged ten months, in a family of girls:

> In the evening at about seven o'clock all the relatives, both close and distant, gathered in the small house of the parents. Outside were grouped all the people of the village, together with many people from the other two villages. Many brought mats with them, upon which they lay; others lay on the bare ground. All age groups were represented, as well as both sexes. The mother sat in the middle of the group inside the house, with the closer relatives grouped around her. She held the sick child on her lap, but did not participate in the "confession". Above her head a lamp burned, and by the lamp hung the old sennit malo that the child would receive should it live to maturity.
>
> The "confession", conducted by the principal males present, consisted in reiterated pleas and challenges directed by each man in turn to the other men and to the mother, urging them to confess what they had of evil in their hearts; suggesting that the child was sick because relatives had bad hearts (*ngakau kino*) and he could only get well when, and if, all the evil was confessed away from their hearts. No one actually confessed his sins aloud before the assembled community, but presumably each did so in the secret recesses of his heart. When one man stopped his urgings, another took up the plaint, and the arguments were bandied about the group without cessation. The crowd outside the house just listened, for the most part silently; some carried on conversations in low voices, and the inevitable flirting went on between the young men and women on the outskirts of the group. The "confession" was kept up all night, though the spectators drifted away at a late hour, leaving only the relatives to carry on.
>
> All was in vain, however. The baby died early the following morning; and the death was attributed in part to the fact that some among the relatives had not cleared their hearts as fully as was desirable.

PHYSICAL THERAPY

757
Though dependent upon the suggestions of the god for confirmation of diagnosis and ideas of treatment, the Pukapukan medical practitioner had, and still has, at his command a number of effective empirical techniques. My information is from Pau, today the foremost medicine man in Pukapuka. His treatments in general seem to follow native patterns, but he has probably [177] borrowed (how much it is hard to tell) some of his rationalizations and practices from European knowledge. The practice of *lomilomi* (deep pressure) is the outstanding method of physical therapy:

> Pau's theory is that pressure on a vein (*uaua*) close to the seat of pain, in *lomilomi*, cuts off the blood vessels from the source of irritation, and thus prevents bad blood from flowing along the vein to the affected part. Formerly it was believed also to cut off the disease object from the seat of pain so that it could be removed.
>
> The two movements of *lomilomi* are: [illegible] (deep pressure) or [illegible] (gentle pressure), pressing with one finger on the affected vein; and [illegible] (to travel), placing

757 the thumb on the vein and then with deep pressure, moving it slowly along the vein outward. Both movements are applied in all types of sickness, on all parts of the body, for every type of pain. Even in inflammation of the breast in a nursing mother, *lomilomi* is applied to relieve congestion or allay pain. Only the inexperienced person indulges in general rubbing movements over the whole body and on places remote from the source of pain. Massage, in the conventional sense, is never used by the expert medicine man, who concentrates on deep pressure over the seat of pain. There is no use of chanting either to assist the rhythm of pressure or magically to increase the efficacy of the technique.

752 Deep pressure and thumb movement are further applied for the relief of pain as follows:

757 Strains and sprains. The limb is explored with the fingers to determine the part of greatest swelling; deep pressure is then applied to this spot while the patient moves the limb at frequent intervals.

Pain in the middle of the forearm. Deep pressure is applied to the blood vessel in the upper arm; then the thumb is pressed along the main artery in the forearm, from the proximal to the distal portion of the limb, thus rubbing the sickness to the fingers, and ultimately from the fingers into the air. An added treatment is the application of a suitable medicine to the wrist and then pressing toward the wrist in such a way that the sickness is conveyed to the wrist and there absorbed by the medicinal application.

Short breath (*ao potopoto*). Shortness of breath resulting from overwork is diagnosed as due to violent pounding of the heart. Deep pressure is applied to the right top and left top of the abdominal cavity. This is believed to relieve breath tension, but no effect on the blood flow is recognized.

Headache (*tinga te ulu*). Deep pressure is applied to the nape of the neck (the effect being presumably to paralyze the nerve centers in this part of the body).

Constipation (*tutai pakapaka*) and diarrhea (*tatapi*). Deep pressure is applied to the colon (in the one case to relieve strangulation, in the other to assist the process of adjustment).

Stomach pain (*tinga te manava*) including mild appendicitis. Deep pressure is applied to the part of the abdomen affected.

Filarial swellings (*waki kinokino*). For swellings of the foreleg, for example, deep pressure is applied to the thigh and is followed by thumb *wakatele*.

757 Formerly, a medicine man might perform the pigeon-sounding ritual (*tupa*) before beginning the *lomilomi* and at frequent intervals during the
755 course of the treatment, with the idea of introducing the power of the god into his fingers and of retaining it during the treatment. This method was not common; its use depended on the personal choice of the medicine man and on the severity of the sickness. When he did this, bystanders would say: "Ka yopokia e te atua i te lima" (The god will seize the hand).

752 Broken and dislocated bones are treated by empirical means, supported formerly by communication with the god if complications set in. A fractured bone is *ivi mati*; to set a fracture is *wakatau*. The technique was illustrated by Pau only for a broken forearm, a dislocated elbow, and a dislocated jaw, though undoubtedly he has a reasonably good technique for dealing with every type of limb dislocation or breakage:

The medicine man grasps the broken limb with his two hands, the two thumbs on opposite sides of the upper part of the limb, the fingers of both hands holding the limb

752 below the fracture. The fingers pull apart the lower part of the bone, firmly and surely, while the two thumbs press (*yoka*) the two broken sections so that they fit firmly together. Then the downward pressure is relaxed and the broken sections pushed together. A cooling medicine (*vai lakau*) is applied to the broken section, coconut sheaths are placed on both sides of the limb to act as a splint (*lakau wakoyako*, stick to make straight), and the whole bound up with sennit. To prevent movement, the arm is slung in a simple sling (*ava*) made of a piece of pandanus mat, an old malo, or a line of sennit which is passed under the arm and fastened over the shoulder. For sleeping, the arm is removed from the splint and rested on a pile of mats at the patient's side. Every two or three days fresh medicine and new splints are applied to the fracture. There was no disease object to be removed from such an injury, though the god was believed to have caused the slip which resulted in the fracture. Native doctors are expert at setting fractures; the limb apparently always knits well.

For an injury to the elbow (presumably a dislocation), termed *wonongo teka* (section out of position), the arm is straightened out, the forearm pulled steadily in a distal direction, the joint pushed in with a steady pressure of the two thumbs and guided back into place. For a similar injury to the jaw, the thumb is pressed in on the angle of the jaw. The mouth of the patient is opened wide until the knuckles of the jaw joint are close in position. Then with a firm pressure of the thumb, the bones are snapped back.

The three cooling medicines used are: drinking nut liquid; *lolo* cream wrung from raw or baked coconut scrapings; and the juice of pounded ripe bananas. The theory in the use of this medicine is that it purifies the blood round the injured part, keeps the fracture cool, allays inflammation, and thus promotes healing. A cooling medicine is applied only if there is much inflammation or pain. *Lomilomi* may be applied later if stiffness is apparent.

757 Besides *lomilomi*, other physical therapy techniques include sweating, sun and water treatment, and lancing. Forced sweating is used for fever only. Fever is *maki awukele*; sweat is *ta*; to sweat, *pupu te ta*. In cases of fever, the source of pain is treated with *lomilomi*. Drinking nuts are heated near a fire, and the patient is given the hot liquid to drink. He is also covered with several layers of mats to promote sweating. There is no known use of a sweat or steam bath to promote excessive perspiration.

General debility marked by pronounced weakness of the stomach and heaviness in the arms and legs was called *maki taenawa* (heavy sickness). It was treated with frequent cold, fresh or salt water baths, the external application of hot coconut liquid, or occasional sun bathing. The god might recommend a cold bath for one patient and a hot bath for another; hence it was impossible to establish general uses of these agents. To heat water the tops of green drinking nuts are split, the coconut liquid poured off, and the nuts filled with cold water are placed on hot coals. When the water is hot, it is poured into a wooden bowl. It is then laved over the patient with cupped hands.

752 Pukapukan surgery seems to have been backward in its development.
The only record or knowledge of post mortem examination is in the stories
763 of Watu-manava-nui and Uyo. The dead bodies of these two supermen
were opened up after death in order to find out the cause of their exceptional
physical abilities. The gods seem not to have suggested to the medicine men

752 any method of removing disease objects by opening up the body. Nothing is known of amputation surgery, nor is there special treatment for shattered or gangrenous bone.

752 In the case of suppurating flesh, boils, or ulcers, the infected part is opened with a lance (*pao*) of shark tooth, and the blood and pus allowed to drain off. 751 To remove the bad blood in filarial swellings, the skin is pierced and the liquid drained off into a coconut shell. The same limb is lanced on successive occasions until the swelling subsides. Today a nail or a piece of glass is considered more efficient than a shark tooth. In lancing ulcers or boils (*hiko papala*) no attempt is made to keep the incision open so as to drain off the pus (*pe*). The hole closes naturally and is reopened after a few days. Nothing is known of trephining, nor is there ever intentional opening of vein or artery for bloodletting. Cautery was unknown. In effect, Pukapukan surgery is extremely undeveloped as compared with another western Polynesian community such as Vaitupu (19, pp. 236-246).

The Pukapukans had little knowledge of dental surgery. They practiced extracting only when a tooth was loose enough to be removed easily with the 751 hand. Toothache (*tinga te nio*) is common today; a favorite remedy is the application of salt or the insertion of a piece of plug tobacco in the cavity. Formerly, the mouth was rinsed out with salt water at frequent intervals, or the cavity filled with a piece of coconut fiber soaked in salt water. Two other remedies are: pound up the leaf buds of the *puka* tree and add to them fresh water or drinking nut liquid; soak a piece of coconut stipule (*kaka*) in the liquid, and pack the material round the affected tooth and gum. Alternately, pound up a segment of the stalk of the banana tree and then tease out the fibers to make a flat surface, apply this to the tooth and gum. Foreign particles stuck between the teeth are picked out with a section of coconut leaflet midrib (*yukiyuki na nio ki te tuaniu*).

For earache, the meatus is explored with a bird quill or a chicken feather (*yokayoka ki te wulu manu*) in an effort to dislodge excessive wax. Specks in the eye (*mata pepe*) are removed by a second person who turns down the lid and blows into the eye. If a cramped foot falls asleep or is affected by pins and needles (*vae matokelekelea*) small stones are inserted between each toe and left there until relief is obtained. Cramps in the hand or arm are relieved by cracking and snapping the knuckles of the fingers (*wakiwaki na mangamanga lima*).

752 The following texts are records of the powers of two men who combined the offices of medicine men, priests, and seers, and who appear to have been 791 particularly skilful in the treatment of some of the disorders just mentioned:

793 1. [illegible] was a [illegible] man. He was a seer, a man with special powers. These were the things he saw: medium-sized fish; when he clapped his hands, the hand was 773 filled with the medium-sized fish. He clapped his hands, saw all the properties of the

756 ghosts. These were their properties, *talo*, sickness causing knots, *malos*, trees, flowers.

Tamau was a priest of Te Langaga. When he came from Wale to Motu Ko, he
791 looked, there the *lenga* fish lay, they were cooked. He took them, ate them. The *tuiva*, the *vete*, the *ngaiai*—all the fish had been cooked, they were grilled by his god. That
793 was his power of his magic.

This was another: the treating of sickness. If it was a broken arm, he tapped it
773 with his hand, it was all right. If a broken leg, he touched it with the hand, well. If an injured eye, he touched it, well. If an aching stomach, he hit it, well. There was no medicine which he prepared for drinking. It was only his hand. That is all.

2. Walieu. Walieu was a man of Loto. Ngaliyeyeu was his god. His magic power was fire. He did not extinguish the fire. It simply burned thus. If the fire went out, his power was lost. The sick people would gather at his house. He would pray to his god. Indeed all the sick people became well. These were the various illnesses. The person obsessed by a spirit would be cured. The person with the very bad [illegible] (swollen parts) would be well. The person whose sickness was shortness of breath would be cured. All the sicknesses absolutely would be cured. Similarly with the small fish, the *malauila*, the *ove*, the *wati kavu*, the *wo*, the *kalowa*, the *atule*: when he clapped, the small fish rushed to him. There: that was his magic. That is all.

757 Certain afflictions are treated by the application of embrocations or by internal medicines. The use of medicines is always accompanied by a tapu against the eating of fish until the sickness is completely cured. The tapu applies whether the disease treated is consumption or filaria. No rationalization could be given to account for the incompatibility of fish diet with medicines, but the rule is always rigidly enforced. To yield to a temptation to eat fish during convalescence is to cause a relapse.

No record remains of old-time postures or practices in the drinking of medicines. It is possible that formerly special rules governed the collecting of herbs for medicinal purposes, but this is only a vague memory today.

754 The following remedies for various illnesses used by Pau are probably generally followed by other practitioners, but each medical man today has
757 his own trade secrets which he jealously guards:

Boils and inflammations. Scrape the bark off the roots of the *tumakomako* plant.
757 Mix the bark with grated dried coconut; then stir in a little coconut liquid. Apply the medicine as a poultice ([illegible]) to the inflammation, cover with leaves and allow to remain thus overnight. In the morning, the boil will have come to a head. Tear off
278 the top of the boil with the fingers and drain off the pus. Dress the sore with juice squeezed from the pounded stalk or leaves of the *tumakomako* plant and cover with leaves to protect from cold and insects.

Constipation. Express the oil from the grated, dried coconut, add an equal amount of heated drinking-nut liquid, and allow the patient to drink about one-half pint of this at a time. If necessary, follow up with another purgative composed of grated drinking nut flesh mixed with equal amounts of *lolo* cream. Amount of any medicine was judged by the eye. A coconut shell served as container. The enema was not used.

Consumption (*maki tutule*, wasting-away sickness). Express the oil from grated dried coconut and mix with an equal amount of heated drinking-nut liquid. Let the patient drink about one-half pint of this medicine which acts as a violent purgative. Follow up with a second medicine: grate the edible flesh from the top of any coconut, add water, and squeeze out the liquid from the flesh. Let the patient drink two or three cupfuls of this liquid twice each day. Diet is especially important in cases of consump-

1;Beaglehole and Beaglehole E-5 (1934-5) 1938 Pukapukans

757 tion: the patient eats only nuts, pandanus fruit, and bananas; talo is later added to the diet, but fish or flesh is tapu as long as medicine is being taken.

Debility of patients grown thin and weak through prolonged illness. Place the liver 278 of any large, edible fish in a green coconut cup, cover with water, and warm over hot coals. When thoroughly hot, remove and throw away the liver. Pound up several lengths of aerial pandanus root, squeeze out the juice, and add to the liver water. Let the patient drink this each day. The same medicine is used for renal colic.

Diarrhea. Bake ripe pandanus keys, extract the nuts, and pound up. Express the juice. To each half cup of juice, add a little dried coconut oil and fresh water. Drink the mixture at intervals until cured. A diet of pounded cooked talo mixed with drinking-nut liquid is also recommended to calm the stomach.

Filaria. Pau would only say that the main treatment consists in *lomilomi* and lancing. However, some practitioners paint an embrocation on the affected limb. The ingredients of such an embrocation are a closely guarded trade secret, but probably consist of a coconut oil base to which pandanus juice is added. Trade perfume is considered to have great virtue as an addition to such a mixture. The embrocation is applied until the swelling begins to subside. After that, nature is allowed to take its course, unaided by external applications.

Hemorrhage. External bleeding of a limb is treated by winding a length of malo or sennit round the limb about the wound and tying tightly. If bleeding occurs in a place where a wrapping may not be easily applied, deep pressure with the thumb is exerted above and below the wound. Either of the two following astringents is applied to the wound: juice squeezed from the husk of a coconut, or juice squeezed from the pounded roots of the coconut tree. The wound is covered with leaves of the *nono* plant and tied with sennit. For external bleeding after childbirth and for internal bleeding, [544] vomiting of blood, or passing of blood with the feces: express the oil from the gratings of a very red dried coconut; squeeze the juice from pounded, baked, ripe pandanus keys, and mix the two liquids; add drinking-nut water to make about two gills of liquid; let the patient drink this at intervals until bleeding ceases.

Stomach pain. Pound raw or baked bananas, mix with *lolo* cream and drinking-nut liquid. About one-half pint of the medicine is drunk at intervals until the pain ceases.

Rheumatic pains (*maki ngenge*). These are treated with *lomilomi* and an embrocation: grate a dried coconut and add to it four or five leaf buds of the *tayinu* tree; pound up the mixture and express the juice onto the source of pain. Other leaf buds may be substituted, but those of the *tayinu* are preferred.

Vomiting (*lua*). As an emetic, drink salt water. To allay excessive vomiting, drink about one-half pint of the internal hemorrhage medicine, until vomiting ceases.

Insomnia (*onge moe*). Pau mentioned this as an occasional complaint, but had no specific treatment.

192 A vocabulary of about 200 words covering physiological processes and parts and bones of the body was also obtained from Pau, who was shown 826 pictures of different parts of the body, diagrams of a skeleton and the skull, and asked to identify the parts he knew. These words are included in the Pukapukan dictionary.

145 Imperfect and irregular teeth (*ngao oyo*) are believed to result if a child loses his milk teeth before the second set is ready to erupt, for the child tends 852 to play with his gums (*take nio*), so spoiling the second set. Many young children, aged 3 to 5 years, have badly broken or decayed milk teeth. Some have sets of stumps that appear to be worn down through hard chewing. This is an individual matter, however, because other children of the same age have beautiful, well-formed milk teeth.

145 Deformity of the teeth was noticed in one man, about 55 years old, who possesses a double set of back teeth, presumably milk teeth and second set, growing side by side from the same gum. Two other very old men were noticed whose four front incisors inclined inward at an angle of about 45 degrees to the gum. I neglected to inquire whether this was due to accident or to the chewing of certain foods.

CARE OF THE BODY

515 302 [512] Adults and children wash (*palupalu*) their faces with fresh water on awakening in the morning, pouring water into the palm of the hand and so applying it to the face. Adults generally do not bathe (*takele*) in the sea until evening, when they have a long bath and gossip with friends. When bathing in the sea by day, they now wear old clothes. Formerly a woman did not remove her kilt. After bathing she laid it out to dry and put on a spare one. Presumably men bathed in their malos. Today, as formerly, men and women bathe naked in the sea at night. A fresh-water rinse is taken after a sea bath when water is available. Coconut oil (*yinu*) was formerly always applied (*[illegible]*) to the hair, face, and body after a bath to make the hair stand out and the skin shiny. Today it is applied only on special occasions, for it is not possible to spare coconuts to make sufficient oil for everyday use.

Delousing (*vakale ae wutu*) is performed at any time by a girl for another girl or older woman, by a mother for a daughter. The lice (*wutu*) are killed by chewing. Presumably it was done for men, when they wore their hair long, by wives or other female relatives, but with their hair cut short, lice apparently present no problem to them. Small boys and some girls today have their hair cut very short as a prophylactic measure against lice and scalp infection. Grey hairs (*lau ulu yina*) are sometimes pulled out of a man's head by his wife. This is termed *wuti ae yina*.

302 826 832 Body hair (*wuluwulu*) on man or woman was not removed but was considered an object of great beauty. At infrequent intervals a man removed the beard from his face by sawing at it (*valuvalu*, to scrape) with a knife of the jaw bone of the *pala* fish. Today most men shave (*valuvalu*) with a razor once a week before going to church.

Whitish blotches (*tinetine*) on the skin resulting from *tinea* infection were highly prized as making the skin more beautiful. The chants contain many references to this; a lover commonly praises the number and size of the blotches on the skin of his mistress.

514 Bodily hygiene of infants and children is discussed elsewhere (p. 276). Adults, like children, urinate (*mimi*) anywhere outside the house. Adults evacuate in the sea and clean themselves with a coconut husk or a stone and

514 sea water. To defecate is *wakapeyi*. The lower Cook Islands word *titiko* is today more commonly employed by both adults and children. The attitude toward the act of evacuating is highly matter-of-fact. No need for privacy is felt. Persons going along paths to the beach are greeted by the phrase, "Ka wo kotou titiko?" (Are you going to defecate?). They answer, "Eke, ka wo matou titiko" (Yes, we are going to defecate). A special word, *taeyi*, is applied to loose movements resulting from eating large quantities of fat.

TIDES

823 The Pukapukan has empirical knowledge of tidal movements of the sea. He knows that the ebb and flow of the tide is associated with the moon, and that a rising moon causes the tide to rise, though he has no reason, mythological or other, to explain this coincidence. The movements of the tide are described in eleven stages:

Tai wangi: dry reef.
Koa manava te tai}
Koa papa te tai} : the sea swells.
Koa pi te tai: the tide floods over the reef and into the lagoon.
Koa oko te tai ki ngauta: the tide ripples on the beach.
Koa wowora te tai: the tide rises higher on the beach.
Koa tu te tai: the tide is steady and high.
Koa payeke te tai: the tide turns to the ebb.
Koa yeke ki te ulu: the tide runs out to a dry reef.
Koa wakaalaala te tai: the tide leaves the reef rocks dry.
Koa wakiki te tai: the tide is completely out (literally, the sea is completely *full*).

High tide is commonly referred to as *tai tala*, low tide as *tai kiki*.

TIME

805 A day is *ayo*; today is *te ayo nei*; tomorrow, *te taeyao*; the day after tomorrow, *te toe ayo*. Yesterday is simply *te ayo* or *te ayo i mua*; the day before yesterday, *te toe ayo la mua*.

Times of the day are descriptively named, but events are adequately timed by the use of the following terms:

Te ulu o te ata matua: the darkness before dawn.
Te ata moua: first streaks of light appear in the sky.
Te ata kena: gray dawn.
Te ulanga ata: yellow dawn or red dawn.
Te kakaonga o te tupa}
Te witinga o te tupa} : the sun crawls out of a hole like a crab (tupa). (The rising sun is termed tupa, the risen sun la.)
Pula te la: the sun rises higher.
Koa tutu mai te la: the sun stands above.
Koa tutonu mai te la: the sun is overhead.
Koa tutonu malokie: the sun is directly overhead.
Koa angahia te la: the sun starts moving down.
Koa tautoru te la: the sun is to the side.

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805 Koa [illegible] te la: the sun is lower.
Koa to te la: the sun falls.
Koa ngoto te la: the sun sinks.
Koa [illegible] te po: dusk.
Koa yeyengi te po: the night begins to darken.
Koa po te po: the night is dark.
Te pouli: complete darkness.
Te pouli kelekele: black night.
Te pouli [illegible]: dark when stars are dim.
Koa vaelua te po: the night is divided into two.
Koa vave te po: the night is finishing.
Koa vave ki ao: dawn quickens.
Te ulu o te [illegible]: darkness before dawn.

Where it is necessary to be more accurate in naming the time at sunrise, as in making arrangements for fishing parties to leave the villages, one of the following descriptive names is used:

Koa wanake te ula ata [illegible]: the first white shadows appear.
Koa wanake te ata [illegible]: white shadows grow, the gray dawn.
Koa wanake te ata [illegible]: there is more light in the sky.
Koa kitea te kili o te tangata: it is light enough to see the color of a man's skin.
Koa wanake te ata kula: there is red light in the sky, red dawn.

For ordinary purposes, only general reference is made to one of the major divisions of the day: *te [illegible]* (morning), *te [illegible] la* (midday), *te [illegible] la* (afternoon), *te aviavi* (evening or dusk), *te po* (night).

195 Four idiomatic expressions are commonly used to refer to ancient times or happenings of long ago. They are: *wo te [illegible] a [illegible], wo te [illegible] a Lolonga, wo te [illegible] o [illegible], wo te [illegible] o te [illegible].* The word [illegible] means "time" or "age". The last expression refers specifically to the time when the land was rising from below the sea, to the time of the "octopus of the sea", by transfer, to very ancient periods. The proper names in the remaining three expressions probably refer to early ancestors, perhaps to early and forgotten generation levels. No history is remembered about the names themselves, but the expressions are used in stories or conversation to give greater
805 emphasis and vividness to narratives of olden times. Seasons and six-moon periods (*[illegible]*) have been discussed (p. [illegible]).

[177] Pukapukan informants today name 31 nights of the moon. As in western Polynesia, the names are descriptive, not proper names. Native custom elsewhere commonly names 29 or 30 nights, usually 30. It is possible that the Pukapukans have added an extra descriptive term to bring an old list of names into conformity with European practice. No names are remembered for the succession of moons throughout the year. Pau states that formerly the Pukapukans had names for 13 moons, but that these have been forgotten today. He suggested that some untranslatable words in old chants may

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806- be names of these moons, but it is a matter impossible to decide today. The names of the nights of the moon are:

1. Koa makatia e te la: (the moon is) thrown out by the sun.
2. Po wakaata: making shadows of the night.
3. Po pala: the night is spotted.
4. Po lua: the second night.
5. Po tolu: the third night.
6. Po wa: the fourth night.
7. Po lima: the fifth night.
8. Koa tutu te maina: the moon is erect, or stands high.
9. Koa itu wenua: the land is divided into two (by the moon?).
10. Koa tu mai loa ki lunga te maina: the moon is on high.
11. Koa ngalue te maina: the moon moves (higher).
12. Koa wolo te maina: the moon is big.
13. Koa wolo loa te maina: the moon is very big.
14. Koa momona te maina: the moon is fat.
15. Koa maliko te maina: the moon shines or glimmers.
16. Koa wakaulu te maina: the moon is overhead.
17. Koa yangia te maina: ? (refers to the night when the crabs mate).
18. Te lama yenga: the yellow light, or the yellow torch.
19. Te uluaki kau pouli: the first-born of the group of dark nights.
20. Wakatai: to make the first dark night.
21. Wakalua: to make the second dark night.
22. Wakatolu: to make the third dark night.
23. Lama wakatau: the (time for) torch fishing is equal (to the length of moonlight).
24. Koa loa te po: the night is long.
25. Koa ngalue ki ngake: (the moon) moves to the east.
26. Koa waki loa ki ngake: (the moon) tilts well to the east.
27. Koa kaulililiki loa: (the moon) is very small.
28. Koa wakatau wenake ma te ulu.o te ata matua: (the moon) rises at the same time as the darkness before dawn.
29. Koa wakatau wenake ma te ata mea: (the moon) rises just at the first streaks of gray dawn.
30. Koa wenake ma te ata lama: (the moon) rises just at gray dawn.
[31. Koa wakatau wenake ma te la: (the moon) rises with the sun.]

ASTRONOMY

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Pukapukan study of the heavens seems to have been governed by the use of the stars and planets as guides for seasonal and fishing changes and the use of the stars as guides for long sea voyages. With the decadence of sea voyaging, much of the old-time lore fell into disuse and was lost. Puyaka, the great expert in star lore at the time of Tuiva committed suicide and took with him to his grave much esoteric star lore. Informants were sure that Pukapukan knowledge of the stars is today but a remnant of former knowledge. The younger men now know only a few star names, some of which they can not even identify. The legend of Maui (1) accounts for the way in which Maui's stars were placed in the sky. Maui was later asked by the gods to count all the stars, a feat which he accomplished. Beyond this, informants could say nothing about the origin of stars.

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[128] The following information on stars was obtained from a number of informants. Robert Dean Frisbie assisted in the identification of the star names and also prepared a chart of the Pukapukan heavens from which the accompanying chart (fig. 55) has been adapted.

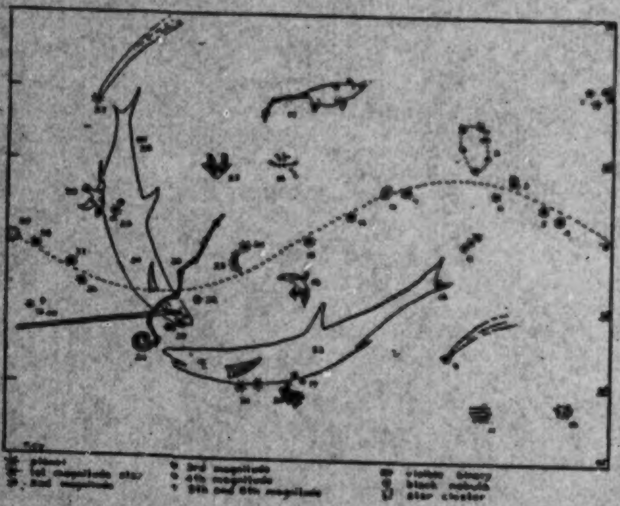

FIGURE 55.—Chart of Pukapukan heavens: 1, Na Taki-tu-tolu-a-Mataliki α, β, γ Cassiopeiae); 2, Te Wale-o-Tutakaiolo (α, β, θ, ι Aurigae, β Tauri); 3, Mataliki (the Pleiades); 4, Takupu-tea (Venus); 5, Tulalupe (Jupiter); 6, Mata-kula (Aldebaran); 7, Mata-kula (Mars); 8, Te Tolunga-Maui (ζ, ε, δ Orionis); 9, Mata-lele (shooting star); 10, Mau-tokelau (Lesser Magellanic Cloud, position approximate); 11, Mautonga (Greater Magellanic Cloud, position approximate); 12, Tapao (Sirius); 13, Pangolengole-a-Kiliwelo (Praesepe cluster); 14, Mata-tea (Saturn); 15, Tokiva (Jupiter); 16, Te Yiku-o-te-kiole (Coma Berenices); 17, Te Yiku-o-te-kiole (Ursa Major, second identification); 18, Te Manu (Corvus); 19, Na Mata-o-te-paniwi (Crux); 20, Te Paniwi-o-Tarewa ("The Coal Sack"); 21, Na Mata-o-te-tokalua, Wua-ma-Velo (α and β Centauri, includes also other stars of same declination); 22, Te Mango (the Milky Way); 23, Te Maina (the Moon); 24, Te Mata-yoa-ki-te-maina (companion star to the moon); 25, Te Wale-o-Awitu (Corona Borealis); 26, Na Pongaponga-iyu-o-te-kiole 4^{ϵ} and 5 Lyrae); 27, Mata-wai-kave (comet); 28, Te Toloa (Delphinus); 29, Tolu (α, β, γ Aquilae); 30, Te Mango (the Milky Way); 31, Te Tao-o-Maui (black nebula near Scorpio); 32, Melemele (Antares); 33, Lua-tama-lelei (λ, υ Scorpionis); 34, Te Kau-o-Maui (star cluster in Sagittarius); 35, Te Wao-a-Mani (θ, η, ζ, ε, δ Orphiuchi and ε Serpentis); 36, Takupu-tea (Venus); 37, Tapao (Jupiter); 38, Te Mata-yoa-ki-te-la (Mercury); 39, La (Sun); 40, Taki-piki-tolu (Piscis Australis). Dotted line represents sun's ecliptic.

The named planets are:

PLANET	NATIVE NAME	REMARKS
Mercury	Forgotten	Called te mata pili loa ki te la (the star very close to the sun).
Mars	Mata-kula (Red-star) a name given to Aldebaran or other conspicuous star	That Mars changes its right ascension and declination is not known.
Venus	Takupu-tea (White-booby-bird)	Known to be the same star when observed in morning or evening; its morning appearance confused by some with morning rising of Jupiter. No native belief as to why Venus rises only part way to observer's meridian.
Saturn	Mata-tea (White-star)	
Jupiter	Tapao	When visible to east in morning.
	Tulalupe	When visible to west in evening.
	Tokiva	When visible overhead.
Sirius		Confused with Jupiter, whose three names are applied to Sirius when latter is in position to warrant their use.
Sun	La	Rationalizations for eclipses of sun and moon given in story of Lingutaimoa (1).
Moon	Maina	Face of moon pictures the woman Yina pounding pandanus key to extract its nut.

The ecliptic of the sun is termed Te Ala-o-te-la (The Path-of-the-sun). The half of the ecliptic to the north (Te Lua-poto, The Short-hole) is the season of fine weather and pleasure-making. The half of the sun's ecliptic to the south (Te Lua-loa, The Long-hole) is the time of bad weather and tapu activities. Informants say that Te Ala-o-te-la goes into the *lua poto* or the *lua loa*. This may mean that the sun in its passage through the sky passes through a hole (*lua*) or cave in the sky. *Poto* and *loa* refer to the short days when the sun is to the north, and the long days when it is to the south.

The named nebulae and the star clusters are:

NEBULA OR STAR (CLUSTER)	NATIVE NAME	REMARKS
Black nebula near Crux "The Coal Sack"	Te Paniwi-o-Taewa	Taewa named this nebula for its imagined resemblance to the paniwi fish.
Triangular black nebula near Scorpio (45° south declination, 18 hours right ascension)	Te Tao-o-Maui (Spear-of-Maui)	The spear that Maui thrust into his shark and hurled into the sky.
Milky Way	Te Mango (Shark)	The shark hurled by Maui. Pukapukans not aware they are observing different halves of the Milky Way during winter solstice (when shark's head is to south) and during summer solstice (when head is to north).

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Greater Magellanic Cloud[12]	Mau-tonga	Said to be a woman because it comes from the cold south (tonga).
Lesser Magellanic Cloud[12]	Mau-tokelau	Said to be a man because it comes from the warm north (tokelau).
Praesepe cluster (18-19° north declination, 8h 25min 30min right ascension)	Pangolengole-a-Kiliwelo	Also generalized name for star cluster or visible nebula such as Great Nebula of Andromeda as opposed to star clusters with named individual stars.

As distinguished from a star (*mata*), a shooting star or meteor is *mata-lele* (running-star); a comet, *mata-wai-kave* (star-with-a-tail). The word *kavenga* means a star constellation in general, but more particularly, a group of stars which have the same declination.

Named stars are:

Mata-kula (Aldebaran), often confused with Mars.

Tolu (three) or Taki-piki-tolu (α, β, and γ Aquilae). Morning rising of α Aquilae (Altair) is sign of commencement of rock grouper season: talao, wapuku, ulupunga, and tiwitiwi fish plentiful.

Melemele (Antares). Morning rising sign for rock grouper season.

Te Wale-o-Tutakaiolo, House-of-Tutakaiolo, (α, β, ι and θ Aurigae, β Tauri).

Na Taki-tolu-a-Mataliki or Na Taki-tu-tolu-a-Mataliki, Three-of-Mataliki (α, β, and γ Cassiopeiae). Rising slightly before the Pleiades (Mataliki), these stars and Mataliki are signs of approach of flying-fish season.

Na Mata-o-te-tokalua, Stars-of-the-pair, (stars of same declination: α, β Centauri, η, θ, ι, ε Argonis, Canopus, Achenar, α Doradi, α and β Orae, α and β Crucis). Morning rising of α and β Centauri is believed to herald period of good lagoon fishing. These two stars often called Na Lua-mata-o-Wua-ma-Velo, and are used as star course to Niue. Informants' belief that any star of same declination as α and β Centauri is included in Stars-of-the-pair is interesting in relation to this star course: The more stars of the same declination the navigator steered by, the easier it was to keep a straight course.

Te Yiku-o-te-kiole, Tail-of-the-Rat (Coma Berenices). Pau believed that this name refers rather to Ursa Major, of which α, β, γ, and δ form the body of the rat, and stars ε, ζ, and η form the tail. Both identifications appear on chart.

Te Wale-o-Awitu, House-of-Awitu (Corona Borealis).

Te Manu, Bird (Corvus). Morning rising is sign of rock grouper fishing season.

Na Mata-o-te-paniwi, Stars-of-the-"Coal-Sack" (Crux). Morning rising is sign for rock grouper. The name Tautolu for Crux is said to be a modern importation. Pau believes that Na Mata-o-te-paniwi is also modern. It is possible that Crux was unnamed by Pukapukans of former days.

Te Toloa, Duck (four 4th magnitude stars in Delphinus). First rain after their rising, a sign of the approach of the rainy season, is referred to as te toloa yua (duck water).

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[12] At times only one cloud is visible, because Mau-tokelau moves over to Mau-tonga, warms the woman's cold, unemotional nature and then embraces her in sexual intercourse, so that the two clouds become one, with Mau-tokelau superimposed on Mau-tonga. Informants insist that sometimes there are two clouds, sometimes one; they do not find at all reasonable the suggestion that perhaps one of the clouds has set or has not yet risen, or that moonlight has obscured the lesser cloud while the greater cloud is still visible.

921 Na Pongaponga-iyu-o-te-kiole, Nostrils-of-the-rat (visible binary, 4 ε Lyrae and 5 Lyrae). Some confusion over identification of the name. Likely that almost any visible binary may be correctly called by this name, in same way that Jupiter and Sirius may both be correctly called Tapao.

Te Tolunga-Maui, Three-Maui-Brothers (ζ, ε, and δ Orionis). Veti alone included Orion's sword as well as his belt in this constellation. Used as star course from Pukapuka to Olosenga and return.

Te Wao-a-Maui, Fishline-of-Maui (θ, η, ξ, ε, and δ Ophiuchi and ε Serpentis). Most informants agreed on including these stars as the main ones in the Fishline, in reality a group of stars strung out north along the Milky Way from Scorpio. An unimportant constellation, figuring neither as star-course guide nor as fishing sign.

Taki-piki-tolu (group of stars in Piscis Australis). Veti and Pau maintain this identification, and refer Tolu alone to α, β, and γ Aquilae. Possibly this distinction is old.

Mataliki (Pleiades). Morning rising marks change of wind to southeast, heralds flying fish, reef fish, and bigger deep-sea fish (then full of roe) seasons. Hence the saying, "Tenа te kau ika o Mataliki ka yau" (Here are all the fish of Mataliki coming). Formerly morning rising introduced the six-moon period of pleasuring. Mataliki directly overhead in the sky is a sign of turtles coming to lay eggs on the outer beaches.

Te Kau-o-Maui, Fishhook-of-Maui (cluster of 4th, 5th, and 6th magnitude stars in Sagittarius). Often confused with the tail of Scorpio, though it lies southeast from the southernmost stars in the tail.

Lua-tama-lelei, Two-beautiful-children or Lua-puloto-koki, Two-beauties-close-together (λ and υ Scorpionis). Their modern name, Pipili-ma, is said to be Tahitian.

Taumakomako (τ, α, and σ Scorpionis). Some informants do not recognise this constellation. Identification is doubtful, as it includes Antares, definitely named Melemele.

Te Ala-kaveinga-o-te-ika, Star-sign-of-fish (Ursa Major). Descriptive name only because this constellation is known by all as sign for reef fish. Pau's identification given above.

Te Manu-o-agana. Group of small stars known to some, could not be identified.

STAR COURSES

502 [487] The value of Pukapukan star courses from the viewpoint of modern navigation has been worked out by Robert Dean Frisbie, whose notes follow. The accuracy of the star courses to the west and from Samoa to Pukapuka is noteworthy. Informants knew of no star courses which would help a navigator sailing eastward from Pukapuka, an indication perhaps of the predominating contact of Pukapuka with western islands.

The course from Pukapuka to Niue was equal to the bearing of α and β Centauri (Na Mata-o-te-tokalua) when low in the sky to west of south. Informants emphasised that the stars must be low in the sky; evidently the old navigators were aware of the Centauri's rapid change of bearing when at a higher altitude (no such emphasis was laid on the Antares, or the ε Orionis, star course). Informants were not aware of the stars being in their lower transit when observed low in the sky; but a navigator sailing as far south as Niue, lat. 19° 10′ S., would undoubtedly observe this.

The true course from Pukapuka to Niue, calculated by Mercator sailing, is 204° 48′. The course that would be steered by a canoe headed toward α Centauri, at 5° altitude, would be equal to that star's bearing, which is, in the latitude of Pukapuka, 209° 10′. This is computed by the formula: $1/2\ Z = \sqrt{\text{cos. } s, \text{cos.}(s-p), \text{sec. } L, \text{sec. } h}$. (In this $s = 1/2\ h+L+p$; Z is bearing; L, latitude; h, altitude; p, polar distances.)

562 The course arrived at by the above altitude azimuth calculation is 4° 22′ to westward of the true course, and, if only one bearing was taken at the beginning of the course, it would take a canoe to a point approximately 39 miles to the westward of the south point on Niue. At this distance a native voyager would be aware of the proximity of land as well as its direction. He would, however, arrive at a point somewhat closer to the land, for as the canoe sailed south, α Centauri's bearing when low in the sky would shift to the south, due to the star's being in its lower transit. Thus the navigator, by degrees imperceptible to himself, would shift his course more and more to the south, as follows:

At Pukapuka the true course would be roughly 205° while the bearing of α Centauri is 209°.

After sailing 200 miles the true course would be 203.5° while the bearing of α Centauri would give a course of 208.5°.

After sailing another 200 miles the true course would be 197° while the bearing of α Centauri would give a course of 207.5°.

Another 100 miles and the true course would be 178° while by steering by α Centauri the navigator would be making a course 207°.

Finally, after following the last course for 65 miles, the navigator would fetch up at a point 31 miles to the west of Niue.

Steering by a course equal to α Centauri's bearing when lower in the sky would bring the navigator closer to Niue; while if the bearing of α Centauri was taken when it was high in the sky there would be little appreciable difference until the star was above 15°, when it would go into its upper transit. This rule, however, would not hold true when the canoe had made considerable southing, but the variation in the course made good would be slight.

[487] If, as some of the Pukapukans claim, Nassau was used by the old navigators as a point of departure, then a canoe headed for Niue would fetch up within 12 miles of the land. It is perhaps within reason that a navigator would stop at an uninhabited island, such as Nassau, where an abundance of food could be gathered for the voyage.

An interesting detail in relation to the α Centauri course lies in the fact that during July, August, and September, when the star sets during the early part of the night and thus is in a position to be used as a bearing, the normal winds in this part of the Pacific are favorable for the voyage to Niue, blowing steadily from the east to northeast.

Informants state that the old navigators steered a course to Upolu which was equal to the bearing of Antares (Melemele) when low in the sky to westward. As it is improbable that this star would be visible, over a period of nights, when below 15° altitude, that altitude has been used in calculating the true course that such a bearing would give. The results follow:

True course to Apia by Traverse Tables	243°
Course by Antares at 15° altitude	245°
Course by Antares (at setting. Amp. tab.)	243°

Antares is last seen to westward during the latter part of October, and thus it is in the western sky during the trade-wind months when the weather is favorable for the above voyage. Also, being a conspicuous red star, in a line with and between τ and σ Scorpionis, it is easy to pick out on a cloudy night.

Informants gave Orion's Belt (Te Tolunga-Maui) as the star course for the voyage from Pukapuka to Olosenga. Taking it at 15° altitude, the course equal to its bearing is 271.5°. As the true course is 264.5°, the star course is in error 7°, and this error would fetch the canoe to a point 31.5 miles to the north of Olosenga. Due to many kinds of sea birds nesting on Olosenga and flying far to sea to feed, the native voyager would be aware of the proximity of land as well as its direction well beyond a 31.5 mile radius. Also, it is probable that, after the first few voyages, navigators learned to sail a little to the left of Orion's Belt. Orion sets to westward during the early part of the trade-wind season, when the weather is favorable for the voyage. If, as one suggests, 502 the voyagers made their departure from Nassau Island, they would fetch up within sight of Oloenga.

487 In sailing to the Gilbert-Ellice Islands, informants state that the navigators used Altair (Tolu). Sailing from Pukapuka, almost any course between 277° and 300° would take a canoe to a point close to one of the islands in the Ellice or the Gilbert groups. A course by Altair at setting is equal to 279°. As it rises higher in the sky its bearing swings to the north. It is visible at setting during the latter half of the trade-wind season when the weather is favorable for the voyage.

In voyaging from Samoa to Pukapuka, the Pukapukan navigators sailed from Upolu to Olosenga; then sailed on to Pukapuka using ζ, ε, and δ Orionis (Te Tolunga-Maui) as their star course. These stars would give a course of 88°, while the true course is 84°, and by taking from Traverse Tables under 4° (the difference between the true and the star course), and with the distance at 259 miles, one finds that the star course would put a canoe 18 miles to the south of Pukapuka. This is approximately at Tima Reef, which place would give a new point of departure for the canoe for the rest of the voyage. In case the canoe missed Tima Reef, due to bad steering or cloudy weather, it would still be likely to come within sight of Nassau or Pukapuka; and even if it missed all three landfalls, it could scarcely fail to come within a point 30 miles to the north or south of one of the islands, which point would be within sea-flight of the white terns—the sign of land. Hence, in sailing from Olosenga to Pukapuka, a distance of 259 miles, the navigator has a cross section of ocean, lying at 45° angle to his course, 110 miles long, in which to make his landfall.

Stress is laid on this point, for, to a casual observer, it seems little short of miraculous for a canoe to pick up a tiny atoll in mid-ocean. As a matter of fact, in the above case, it would be remarkable if the voyagers missed one of the two islands or Tima Reef.

Finally, the Orion's Belt course from Olosenga to Pukapuka is peculiarly advantageous as these stars are visible to eastward during the early part of the hurricane season when the winds are favorable for the return voyage. Later in the hurricane season—February and March—the winds are also westerly, but it is doubtful if a canoe would attempt the return voyage during these stormy months and, moreover, Orion's Belt would be too high in the sky to be used as a bearing. It is most likely that the return voyage would be made in December, when the winds are light from the west and Orion's Belt is low in the sky to eastward at sunset.

COUNTS AND MEASURES

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The Pukapukan system of counting follows the general Polynesian system. It shows a high development of number prefixes used when counting different classes of objects. The list of numerals is:

1.	Tayi	20.	Lau lua
2.	Lua	30.	Lau tolu
3.	Tolu	100.	Lau
4.	Wa	101.	Lau ma tayi
5.	Lima	111.	Lau ma laungaulu ma tayi
6.	Ono	200.	Lua lau
7.	Witu	300.	Tolunga lau
8.	Valu	400.	Wanga lau
9.	Iva	1000.	Mano
10.	Katoa or laungaulu	2000.	Lua mano
11.	Laungaulu ma tayi	10,000(?).	Tini
12.	Laungaulu ma lua	100,000(?).	Ngaulu tini

802 The word *katoa* is used for ten in simple enumeration. It is never used in conjunction with the name of the object enumerated, but in its place
193 *lauwgaulu* is used. Where the special counting prefixes are used, these are added to the suffix *ngaulu* to indicate 10 objects of whatever class.

Numbers higher than *ngaulu tini* in progression of numerical greatness
802 are: *manomano mauaua, matinitini, makelekele,* and *ye,* which is an expression that corresponds to infinity. The number of terms that the Pukapukan
192 uses to indicate high numbers is interesting though it is a little hard to see the function of high numerical concepts in an atoll culture.

It was a favorite jest among informants that the Pukapukan could count to a higher power than we could; proof of this they argued was not only the presence of words indicating progressions to infinity, but also the ability of the culture hero Maui to find Pukapukan words which enabled him completely to enumerate the stars in the sky, the fish in the sea, the sands on the beach, and so forth. It is likely, however, that such words as *tini, ngaulu tini, manomano mauaua* indicate not so much a definite number as a progression of increasing greatness that is more sensed or felt than definitely apprehended.

802 To indicate "more than" or "plus" to even numerals, *tu ma* is suffixed to the numeral: some 70 people (*tinowitu tu ma*). To form numerical nouns
193 from the numerals 1 to 10, *ngoa* is suffixed to the number: I have received my three (*ne mau toku tolungoa*). Each is *taki*; one person or object each: *takitayi.* The prefix *tokitahi tu* is used of things to indicate "one by one", "one at a time", and so forth: *tokitahi tu tayi, tokitahi tu lua*; of people the prefix *takitua* is used: *takitua tokalua,* by twos, or, for each pair.

802 To count is *laui or wahalau.* A special set of terms is used to count coconuts by pairs (*oania*). One pair of drinking or mature nuts is *tayi oania.*
192 From this on the counting runs:

Lua: 4 nuts.
Tolu: 6 nuts.
Wa: 8 nuts.
Yepulupulu: 10 nuts.
Ono: 12 nuts.
Witu: 14 nuts.
Valu: 16 nuts.
Iva: 18 nuts.
Yuna: 20 nuts.
Tolu: 30 nuts.
Wa: 40 nuts.
Lima: 50 nuts.
Lau: 100 nuts.

802 The development of counting prefixes is indicated by the following list.
To count people, the prefixes are:

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Toko, counting people from 1 to 10: *e tokotolu tatou,* we are three.
Tino, counting people from 10 upward: *tinongaulu,* 10; *tinowelau,* 100 people.
Matino, used solely for counting the priest members of a god house (*wale atua*): *matinotolu,* three priests; *matinowitu,* 7 priests.

Inanimate objects or creatures other than human beings are counted with the following prefixes:

802 Ipu, coconut shells: ipungaula, 10; ipulua, 20; ipuwelau, 100; ipuluangalau, 200.

193 Kai, fishhooks, used when counting the number of hooks on a composite fishing apparatus ([illegible]): kailima, 5 hooks. The number of fish caught with this apparatus is also counted with the prefix kai, as kailima ika, 5 fish.

Kau, oven stones, fishline sinkers, leaves of prepared pandanus for plaiting: kaulua, 20; kauwelau, 100; kautolungalau, 300.

Kaui, fishhooks stored in the special [illegible] receptacle, or hooks on a bonito trolling rod: kauitolu, 3 bonito hooks.

Kapa, plaited objects such as mats, hats: kapangaula, 10; kapalua, 20; kapawelau, 100.

Lau, fish caught by ordinary methods, or live fish: laungaula, 10; lau lua, 20; lau, 100.

Manga, branches, livers (internal organs), bananas, or fingers: mangangaula, 10.

Mata, talo, or puraka: matangaula, 10 tubers; matalua, 20; matawelau, 100 tubers.

Mata, meshes in a net: mataluangalau, 200 meshes.

Tua, crayfish or crabs: tuangaula, 10 crayfish; tualua, 20; tuawelau, 100.

Ua, shellfish: uangaula, 10 clams; ualua, 20.

Ula, victories in a progressive game: ulatolu, 3 wins in disc-throwing game (tupe).

Yaka, canoe seats: yakaono, 6-seater canoe.

These counting prefixes are also used in questions inquiring the number counted, as: *E tinoaua te tangata?* How many people? *E mataaua te taro?* How many talo corms? *E yakaaua te vaka?* How big is the canoe? The answer uses the prefixes as given above.

804 Measurements of length are commonly used for fishlines, or in craft activities. Those in common usage are:

Watinga mangamanga lima: length of one finger joint, tip of finger to first joint.

Lua watinga mangamanga lima: two finger joints.

Tolu watinga mangamanga lima: three finger joints, i.e., one finger length.

Ngaoa mangamanga lima: span of hand from thumb to longest finger.

Watinga lima: finger tip to elbow joint.

Lima: finger tip to shoulder of outstretched arm.

Uma: finger tip to center of chest with outstretched arm.

Ngawa: tip to tip of fingers, with outstretched arms, across chest; tolunga ngawa, three lengths, and so forth.

Kumi: a length of 10 ngawa.

Lau: 100 ngawa: E wea te loa o te [illegible] la? E lau; What is the length? 100 ngawa.

Measures of volume are made by the use of descriptive terms:

Mo man lewu: a very little.

Lewu: a little.

Mo man: a little more.

To ki: (a container) about ¼ full.

To kiki: between ¼ and ½ full.

To kiki ki lolotonu: about ½ full.

Ki: full.

Ki kakala: brimful.

Ki kalekale: full to flowing over.

There are no standardized measures for volume; the liquid which is being described is added to the descriptive term to make clear the amount of liquid measured.

COLORS

192 The Pukapukan has little need to distinguish fine degrees of color gradation. The environment is monotonous in color scheme: white coral sand, 822 dull green of coconut and other tropical trees, blue sky and sea. Tropical reef fish are of course a riot of bright, variegated coloring, but they are 151 easily distinguished in terms of shape, number of fins, and so forth. In general, therefore, the Pukapukan is content to distinguish one or two colors like red or brown and blue or yellow. These with black, white, and a term for variegated coloring are ample for his needs, because color terms can be duplicated and combined with other terms to give an approximation to a desired degree of saturation. Terms for a commonly used color series are:

Kula: red.
Kulakula: brown (as the hair).
Kula uliuli: very dark red-brown.
Kula keye: deep red.
Kula lalenga: greasy (?) red.
Kula melo: scarlet.
Kula melomelo: reddish.
Kula pongipongi: brownish red.
Kula toto: blood red.
Kula yiyina: shiny red.
Melomelo: yellowish.
Yengayenga, yeyenga, pa yengayenga: blue or yellow or a mixture of these two colors.
Uyi, uyiuyi, pa uyiuyi, uyi koka: dark greenish.
Mumuke, mamama, litolito, kena, kenakena: white.
Mukalele, mokavakevake: blinding white surface.
Tea: white, used only in proper names.
Kalipo: iridescent.
Kolone, konakona, kuyikuyi: striped or variegated.
Uli (general word), uli popo, uliuli, pa uliuli, ulimotumotu, ulimangiloli, uli koka, uli popokawa: black and various saturations of black.

Informants found it impossible to compare exactly any of these adjectives with European colors, though perhaps a deeper investigation may establish a few exact correspondences. Informants were unable to agree upon the color name for a yellow pencil, some believing the color to be *yenga,* others *lenga,* a Rarotongan word meaning blue. Similarly, informants had no word to define the color of a piece of white paper. They called it *kena*; but the same word is also given for the color of pandanus (*lito*) plaited mats, which is usually a very light saturation of yellow. Informants defined the color of white clouds as *mamake,* which seems to mean perfectly clear and soft. The tendency perhaps is to describe colors in terms of surfaces or relative degrees of saturation, which must be increased greatly before another color results. Smaller increases of saturation are simply described by duplicating the basic word or parts of the word.

1;Beaglehole and Beaglehole E-8 (1934-5) 1938 Pukapukans

GAMES AND AMUSEMENTS

524 171 526 The two seers, Wotoa and Te Yaa, brought back to Pukapuka some games they learned in the Underworld (p. 327). Pukapukan navigators to the eastern and western islands, notably the chief Wue, introduced the remainder of the games played in Pukapuka. A series of 48 string figures (3) collected in the field is not included in the following descriptions of amusements.

857 572 Organized plays, dancing, and singing, have a large part in the life of children (2), especially in the evening when they play together on the beaches, watched by the adults who move to the beach to cool off in the evening breezes.

536 527 Dramatizations of selected native traditions and dramatic performances of Biblical legends are popular. These are now held on May Day; formerly they were probably associated with the festivities marking the morning rising of the Pleiades. Each village chooses one or more legends for performance. These are rehearsed for some weeks and then presented in turn before the island assembled. The performances follow in general those described by Buck (29, pp. 198-203).

CHILDREN'S GAMES

526 *Kio*, played in the lagoon, on land, or in the trees. Two equal teams (*tuku*) of children line up and face each other in the lagoon. One team occupies deep water, standing on a coral rock (*toka*). The other team is in shallower water. The deep water team dives from the rock, and, by swimming under water, tries to pass the line of defense of the inland team without being caught. Each member of the deep water team that gets past the inland team scores a point (*kai*) for its side, ten points giving a win (*ta te ulu*). The teams take turns at defense and challenging positions until one team wins. In land *kio*, the teams stand about 15 yards apart, one team trying to run round or through the other's defenses. In tree *kio*, which is uncommon, one team defends a position in front of a tree, through which the other team must go to climb into the tree.

Wai (playing) *kio*. One player, usually self-nominated, is *kio* (it). He stands still while each of the other players comes up, hits him on the head with the hand, and runs away. When all have hit him, *kio* takes up the chase, which continues until he has caught and whipped each of the players.

Wakatau nena (hide and seek). A favorite in the evening when it is not easy to see. Two teams are formed and one goes off to hide. The other team gives it a few minutes' grace, and then announces, "Ka ulu!" (We shall search!) If after a thorough search they fail to find hidden players, they call out, "Wakayuyu" (literally, get wet). Then those of the hiding team who have not been discovered walk in, scoring one point (*kai*) each. The two teams take turns at hiding and searching, the first team to score ten successfully hidden members wins the contest. With this victory goes the privilege of whipping the members of the losing team. These whippings are never severe; a gentle clip on the head or back with hand or stick suffices.

Wai atua moana (old name, playing spirit of the sea) or *wai Levi* (modern name, playing the seer Levi). Played on bright moonlight nights by small children, older girls, and grown women, of ages ranging from 5 to 40 years. Two circles (*urenua*) are drawn about 50 feet apart. One player, usually the oldest, takes the role of Lewale (the old name, a god), or of Levi (the modern name). He stands in one circle, all the

526 other players in the other circle. Leweke calls out, "Kaina, kaina na wale takataka a Leweke (Levi)" (Somebody has broken into the storehouses of Leweke or Levi). Then he rushes for the other players, who must run from their circle to his circle without being caught or tagged with the stick he is permitted to carry. He is allowed to whip with his stick any player he catches, because he has caught the "thief" who has been stealing his *takataka* nuts. Those caught must leave the game. Now standing in the second circle, Leweke repeats his call, and rushes for the remaining players, who try to run in safety to the opposite circle. This goes on until he has caught all the players. If a second game is to be played, another player is chosen to be Leweke. After this game, a group often goes on to play introduced games, common western games like "The fox and the hens", or "The cat and the chickens". The cat stands in front of and facing a line of players, hens and chicks. The cat asks, "Who is at the end of the line?" The hens answer, "Nobody." The cat says, "Shall I go see?" The hens say, "Certainly." Before the cat tries to pass the line of hens in order to attack the chickens at the end of the line, all dance together, and then the cat fights the hens who try to protect their chickens.

524 *Tolotolounga*, played by children from 8 to 10 years. Two equal teams are chosen. One team sits comfortably on the ground. The other team retires behind a house where it selects two of its members, one to act as a crier (*valovalo*), and the other to crawl (*totolo*) behind the *takapau* mat which the crier carries upright covering the crawler's feet and body. The pair then approach the seated team. The crier calls out, "Tolotolounga, tolotolounga na ngalo, koai?" (Crawling, crawling, he has disappeared, who is it?). Now the members of the waiting team are collectively given one guess as to the name of the hidden crawler. If they guess correctly, the crawler's team is *mate* (dead). If they guess incorrectly, the crawler's team scores a win and then comes out again. Not until the crawler's team dies, does the sitting team get its turn.

Pei, another guessing game. Two or more teams sit outside. A player (A) from one team stands up and looks in front of him. A player (B) from the other team comes up behind him, and facing the same way as A, places his hands over A's eyes, and then lightly and quickly touches the back of one of A's legs. A has to guess which of his legs has been touched. If he guesses correctly then the two teams change places. If not, then the first team continues to guess.

DANCES AND SONGS

857 535 177 The locus for the children's dancing and singing is usually the beach. Children dance any time during the day or evening, just as the spirit moves them, in groups consisting of boys alone, or mixed groups. Much of this imitates adult activities; whenever adults are practicing dances, groups of children gather on the beach to perform to the best of their ability the same dances.

859 593 The dancing is of the modern Tahitian style, with all the dancers in line performing the same rapid movements of arms, legs, and hips to the rhythm of modern Tahitian, Samoan, or Lower Cook Islands songs. The individualized Samoan type of dancing is absent. Some songs (*ute*, modern) seem to be improvised as the occasion demands, and the children are expert at fitting melody and words together. The words of many children's songs were recorded; most of them, however, are not translatable because they consist mainly of nonsense jingles which fit in with a particular melody. A few translations which it has been possible to make are given to suggest the

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type of ideas that are embodied in the songs. Lack of recording apparatus renders it impossible to present the music.

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1	Ae te kau ia e, i a Mea ko momomomo, ae te kau ia e, i a Mea ko momomomo Maka ko katia i loto o te uki ngayu, katia i loto o te uki ngayu Ko wakamakamaka te muli o te kiole, ko wakamakamaka te muli o te kiole Toko tai tai toko toko to; toko tai tai toko toko to Tai tai ta tai taka tiki ta Tai tai ta tai taka tiki ta	Oh, the group. So-and-so is inserting (copulating). [repeat] (He) throws (her), bites her in the ngayu grove [repeat] The back of the rat goes up and down [repeat] [Nonsense syllables]
2	Ko yaele mai ia koe, ko yaele mai ia koe Ko lomia e Tama, lomia e Tama ko tu te muavaka	You walk there, you walk there You are pressed down by Tama, pressed down by Tama till the front of the canoe (sexual organ) is erect
3	Moe lai i a Te Yei ia te malumalunga o Matawea Wati ai te titi o Toketa Wati ai te titi o Toketa	Te Yei slept there in the soft place at Matawea Broke there the titi of Toketa. [repeat]
4	Yaele matou ki Motu Kotawa wakamangi-angi ki te matangi Yaele matou ki Motu Kotawa wakamangi-angi ki te matangi Kite atu matou i te ngaipu palia palia Wati te tuki	We walk to Motu Kotawa to cool off in the breeze [repeat] We see a coconut shell drifting, drifting The pounder is broken.
5	E te manu e nimonimo ia E te manu e nimonimo ia Wakakaukau atu ia te wale Wakakaukau atu ia te wale Matiatia matiatia mati mai Mati mai ki konei e	Oh the birds are swooping down [repeat] They gather round the houses [repeat] They are caught, they are caught Caught here.
6	E te manu e wakele mai ia E te manu e wakele mai ia Tau i te puapua ia wanga Tau i te puapua ia wanga	Oh the bird is flying there [repeat] It lights on the *puapua* tree in the clearing. [repeat]
7	Lumakina i te vai o Malele Ke tu te mea pe te yiolo Yioyio mai ko liko ai te ngongo	Dive down into the pool of Malele Till the thing (?) stands like a ghost Whistle to catch the *ngongo* bird.
8	Kakalo atu ko matou e Ki Te Manu koa wanake Apaia mai ko Te Ili, apaia mai ko Te Ili Ilili matou, ilili matou Apaia mai ko Te Ili, apaia mai ko Te Ili; Ilili matou, ilili matou	We look up At the Bird (Constellation, Corvus) rising Bring the Fan (modern name for Orion), bring the Fan We fan ourselves, we fan ourselves [repeat]

1;Beaglehole and Beaglehole E-5 (1934-5) 1938 Pukapukans

539 Ko te kau, ko te kau o Maui	The fishhook of Maui (in Scorpio)
Ko te yiku, ko te yiku o te kiole	The tail of the rat (Coma Berenices)
Ko te yiku, ko te yiku o te kiole	[repeat]
E manga tangitangi, e manga tangitangi	Singing branches, singing branches
E manga tangitangi, e manga tangitangi	[repeat]
Mei te puleka tunu, mei te puleka tunu	Like *puleka* cooking, like *puleka* cooking
Mei te puleka tunu, mei te puleka tunu	[repeat]
E Lua te tiutu e angi mai	Oh Lua, your wind blows here
E Lua te tiutu e angi mai	[repeat]
Ka pa atu te vaka ki Kalaumea	Your canoe will be carried to Kalaumea
E, ka pa atu te vaka ki Mata Kalakalo	Your canoe will be carried to Mata Kalakalo
E, ka tau la ki te uta ma te kolo ma te wawa	You will land at the side with the people with their talo
Ka tae ki loto ki Kalaumea, ka tae ki loto ki Kalaumea.	You will reach Kalaumea, you will reach Kalaumea.

MISCELLANEOUS GAMES

851 524 177 Other games are played by children, by adults, and by mixed age groups. The following are simple games of this class requiring little organization or skill:

Poiani (a type of counting-out game). The players group themselves together and sing a song, which rhythmically counts out the members of the group. The person on whom the last count falls must stand up and dance for the company. It is probable that this game was introduced by missionaries from other islands for it is now associated with singing and dancing of Tahitian origin.

Kiki wali tau. A group of adults and older children gather together, and sing a chant. Each endeavors to remain serious while causing another to burst into laughter. The person who laughs is then made fun of by the company.

524 *Kinikini* is played by two or three persons seated near each other. The first stretches his right leg forward, the second lays his foot over the other's foot, and so on, each participant placing first one foot, then the other on top of the other's feet. On the top of the heap of feet, the players alternately place their hands, pinching (*kinikini*) the foot or hand immediately below with the thumb and index finger. In this position, they repeat a short chant. Each time the chant is finished, the player whose hand is on top removes it from the pile and licks his thumb as the others sing "yopu" (lick). When all the hands are retrieved from the pile, the chant is continued as each player removes his feet, licking his big toe.

Wahatangi upaia is a favorite game of children and of some adults, especially women. The player contorts his face so that the skin is drawn tight over the cheek and mouth; he snaps the index and middle fingers of each hand alternately in rhythm against the cheek and chin to produce a loud sound. Children frequently play this game when bored or watching some activity or when slightly embarrassed.

526 Hopping and jumping games are played by young men, women, and children, usually in the village street. These are very popular in the cool of the evening. Endurance is the object. Various types of hopping or jumping are distinguished: *ato popo*, in which the soles of both feet are brought up behind to touch the buttocks; *ato tavalivali*, in which the sole of one foot only is made to touch the buttocks; *atoato*, which consists in ordinary jumping up and down with both heels kept together; and *tekiteki* in which the player hops on one foot.

1;Beaglehole and Beaglehole E-5 (1934-5) 1938 Pukapukan

526 *Uto pepe wowa.* A line (*wowa*) two fathoms long is marked off on the ground by scraping with the foot. Two teams (*tuku*, [illegible]) are chosen. In turn each player of one team makes the *uto pepe* movements up and down the *wowa* line, while the count is kept of the total number of times the team moves up and down the line. The players of the other team follow. The team that scores the greatest number of complete jumps wins the contest. In *uto pepe* [illegible], two players, one from each team, jump together at the same time, without moving on any course. One team wins a point (*koi*) when the player from the other team drops out. The team that first wins 10 jumps (*ulu* [illegible]), wins (*ka to ulo*) the match.

In [illegible] and *uto* [illegible], a *wowa* line may or may not be used.

Tohikohi hopping. A rectangular area (*wowa*) about 15 feet long and 16 feet wide is lined off on an open space. The participants, singly or in groups, hop up and down this line, scoring one point for each arrival at either end of the boundary. The player with the most points wins the contest. Because this is an endurance test, the skillful hopper makes each pace as long as he can and thus economizes on wind.

524 *Tilitili koua* (juggling with very young immature coconuts). Played by children and adults. In competitive juggling, the players chant and juggle in rhythm; those who are able to continue to the end of the chant win the contest. A number of chants especially composed for this amusement were collected (1). The usual number of *koua* used in juggling is three; some experts are able to juggle four at a time.

SHELL TOSSING

Tili pulepule (tossing *pulepule* shells, the Polynesian counterpart of jackstones). Played by adults and children of both sexes. From two to twenty persons may play at one time. A large number of seashells of the type known as *pulepule* (*Cypraea*) are gathered and placed in the center of the group of players who take up their positions in a circle seated on *kakapau* mats. Each player has a throwing stone (*tili wati*) which he holds in his right hand. The object of the game is to toss up the stone, pick up the shells from the ground in a given fashion, and catch the stone as it comes down. Twenty-nine figures may be played in one game, starting with the simple tossing up of the stone and removing of *one* shell from the heap. The beginner, who is chosen in no special way, but who simply is the first to call out, "I am first (*Ko oku te pule tayi*) is known as the "*pule tayi*". He continues to play until he misses—until the stone has fallen (*ma so*) without his having caught it, until he fails to pick up the required number of shells, or until he has removed all the shells, which is one win (*ulu tayi*) for him. Should he miss, the play goes to the next person on his left, and so on in a counter-clockwise direction round the circle of players, continuing the one figure until all the shells have been removed. As each player picks up shells during his play, he places these under his bent knee, to be counted when the figure is over. Each player in turn counts (*kawi*) his shells one by one, counting without any special numerical prefix (*katoa* being 10, *lua kui*, 20, and so forth). At the end of the play the number of figures won by the individual players, which are called *ulu tayi*, *ulu lua*, and so forth, are compared and the one who has won the most individual plays wins (*ka to ulo*). To tie either in a single figure or for the whole game is *wolo*. The loser is *wolea* (defeated). As each figure is finished, the next is begun by the person to the left of the starter of the preceding figure, regardless of where the last play ended. Thus, each player from the start is called by the name of the figure which he will begin. The figures are played in the following order:

1. *Pule tayi*: throw up the stone, remove one shell from the heap, and catch the stone as it drops.

2. *Pule lua*: remove two shells at a time with each toss of the stone. It is considered a miss to pick up more or less than the required number. An odd shell at the end is counted by the player who finishes the figure.

3. *Pule tolu:* remove three shells with each toss of the stone.

4. *Pule wa:* remove four shells with each toss of the stone.

5. *Iho* (bend): the player whose turn it is to start the figure has merely to bend his elbow to score a win. There is no trick in this; it is merely the advantage of being the fifth starter.

6. *Lukuluku* (scoop): throw up the stone, scoop up as many of the shells in the pile as possible with two hands, and catch the stone on top of the shells in the two hands. The player then pairs all the shells he has picked up to see if there is an odd shell (*hoi*) over. If such is the case, he may continue to play the figure, but if not, he is said to *lile* and must return the shells to the pile; the turn passes to the next player, who tries his luck. If he succeeds, the odd shell is returned to the remaining pile of shells to be picked up in the next scoop. To be unable to throw out the odd shell (*malie te hoi*) constitutes the "*lile*".

7. *Pule ka:* throw up the stone and pick up with one hand only, as many shells as possible, catching the stone on the top of the shells as it falls.

8. *Pule ikoiko* (bend): as in 7, pick up as many shells as possible with one hand, catch the stone on them, and quickly flex the wrist inward to the body as the stone is caught.

9. *Pule pu* (hole): throw up the stone, pick up as many shells as possible with a side sweep of the hand from right to left, and catch the stone on the radial side of the lightly clenched fist in the hollow formed by the flexed index finger.

10. *Pule tuto* (erect): toss the stone in the air, hit the pile of shells twice with the palm of the hand, pick up as many shells as possible and catch the stone with the same hand.

11. *Pule moe* (lying): toss up the stone, pick up as many shells as possible, catch the falling stone in the hollow between the outstretched thumb and index finger.

12. *Pule tu te lima* (hand erect): toss up the stone, pick up as many shells as possible, and catch the falling stone in the hollow between the vertically outstretched thumb and index finger.

13. *Pule pata te lima* (strike the hand): repeat 12, and snap down the index finger on the stone as it is caught.

14. *Pule wakayayake:* throw up the stone, pick up the shells, rotate the forearm and hand in a counter-clockwise direction so that the elbow points upwards and away from the body, catching the stone on the ulnar surface of the clenched fist, in the hollow made by the flexed little finger.

15. *Pule' hakalo ki te langi* (look at the sky): gaze upward and without looking at stone or shells toss up stone, pick up shells, and catch the falling stone.

16. *Pule hakalo ki te tangata* (look at the people): staring at the people around and without looking at shells or stone, toss up the stone, remove shells, and catch falling stone.

17. *Pule tolo* (shove): throw up the stone, push away the pile of shells, then pick up as many of them as possible, catching the falling stone.

18. *Pule wakamayangi* (quietly): separate the individual shells in the pile from each other, spacing them at about a half inch apart. Then one at a time, with the toss of the stone, remove each shell without touching any other shell with the hand and without allowing the stone to hit against the shell in the hand as it is caught.

19. *Pule tangi i te tua o te pulepule* (sound the back of the shell): toss up the stone, remove a shell from the pile, and catch the falling stone against the shell, so that the two surfaces make a clicking noise.

20. *Pule kali i lunga* (wait above): toss up the stone, pick up as many shells as possible, and catch the stone while it is still high in the air, not lower than the top of the head.

21. *Pule kali i lalo* (wait below): throw up the stone, pick up shells, and catch the stone with the hand resting on the ground.

524 22. *Pule tako ki langa* (raise up): throw up the stone, pick up as many shells as possible, and catch the falling stone with an upward swooping movement of the hand.

23. *Pule yana:* throw up the stone in such a way that it will fall near the front of the body, remove as many shells as possible, and catch the stone at the height where the *yana* (neck ornament) hangs on the chest.

24. *Pule loku ki te vaka* (stoop to the canoe): throw up the stone, toss a handful of shells into the lap and catch the stone.

25. *Pule lakei* (decorate): place the shells in a line along the outside of one leg and thigh at intervals of one inch, and remove them one by one with a toss of the stone, in such a way as not to disturb the remainder.

26. *Pule lupe:* toss the stone high in the air, slap thighs with both hands, pick up shells, and catch the falling stone.

27. *Pule yi potaki* (fish *potaki*): throw up the stone, move one shell at a time toward the body with a flick of the flexed index finger and catch the stone.

28. *Pule kokomo* (eyes closed): throw up the stone, close eyes tightly, pick up shells and catch the falling stone without opening the eyes.

29. *Pule wayilayila* (sleepy eyes): throw up the stone, and with eyes more than half-closed pick up shells, and catch the falling stone.

DISC THROWING

526 *Wakapotaketake* (disc throwing for distance). The disc (*potaka*) is a stone of *punga* coral. To throw the disc is *wakatatake*. The course is the village street. The teams are made up of ten men each, one team from each village. Three men throw each round. The stone is held with the thumb and index finger and thrown for distance with an underhand motion. The team with the greatest number of longest throws at the end of ten rounds wins the contest.

DISC PITCHING

Tupe (disc pitching). The game is played with coconut-shell discs, of varying weights and sizes, cut from the bottom of the dried, hard *yakali* nut shell. The discs are polished smooth and the edges made even and regular. Two sets of discs are not distinguished by different colorings, the discs are not ornamented, nor is there any special container for them. The surface on which the discs are thrown is a new, smooth, ordinary pandanus mat, 6 to 8 feet long and of any width. The players sit at the head of the mat. The opposite end of the mat is raised 4 or 5 inches by the insertion under its edge of a coconut leaf midrib, which is called for this purpose *kauyalo*. A third person called the *kauyalo* sits at the raised end of the mat to keep the prop in position, to judge and recover the thrown discs. The object of the game is to place the discs as near the edge of the mat as possible, even tilting them over the raised surface, so that they are closer to the edge than the discs of the opponent.

The game is played by two players at a time. Any even number of discs up to 20 is equally divided between them. Though the first pitcher is at a disadvantage, he is not chosen in any special way. One player simply says to the other, "Tupe", and the other throws. He tosses his disc up to the edge of the mat with a well-aimed side twist of the wrist which spins the disc and helps to check the danger of its rolling off the edge of the mat. If the first player's placement is a good one and lies just at the edge of the mat, but not tilting over, the second player attempts with his first pitch to hit (*tongi* or *tita*) it off from the inner side so that his own disc will remain on the mat while the other is knocked off. If the first disc of the first player is badly thrown and constitutes no danger to the second player, the second player throws without attempting to upset its position but to place his own shot in a good position on or near the edge of the mat. Then the first player, in his second pitch, will attempt to knock off the opponent's good shot, replacing it with his own disc. As soon as he betters his own preceding throw, which has itself been bettered by the opponent, the disc of his preceding throw is

526 removed (*to*). Should he have two or more discs on the mat, none of which is bettered by the opponent's discs, these are left until such time as the opponent manages to place a disc ahead of them, when all behind opponent's placement are removed.

The players in turn shoot their discs always trying to line their own discs on the edge of the mat, while keeping the opponent's off. Two skillful players will often play through their discs, each putting his shot well on the edge of the mat, only to be knocked off by the next play of the opponent. In this case there will be only one score (*kai*), the last disc thrown by the second player. To knock two of opponent's discs off the mat with one throw is *tita lua*; to knock off three is *tita tolu*. Should there be several discs on the mat at the end of play, only one player's disc or discs bettering all discs of the opponent is counted in the score. Should it happen that the player who started has no disc remaining on the mat and only one disc left to throw, while the finisher has two discs left to throw and at least one on the mat, then the latter, without taking his turn, calls out, "Na lave", and scores three points. The beginning player forfeits his last shot, and the next round begins.

With the help of the *kauyalo*, the players remember their own scores for each round; the player who first scores ten points wins (*ta te ulu*).

A game of *tupe*, though played at one time by only two players, is actually of the nature of a group game. At the end of a game, the loser briskly jumps up and another person takes his place to try his skill against the winner. The number of persons that one player successively defeats is his *iki*; two, *iki lua*; three, *iki tolu*. The crowd sits or stands about watching with the greatest interest and coaching each shot. Should the *kauyalo* neglect to remove a dead *tupe*, someone in the crowd of onlookers is sure to scold him and order him to remove the disc, "To te tama ia! E kole, te tupe i te tautawa na!" (Remove that child! No, the one on the side!) The player must decide whether to attempt to knock off the opponent's well-placed disc, with the danger of losing his own disc over the edge of the mat, or whether to leave the opponent's disc in position and attempt to place his own disc ahead of the other. Similarly the skillful player has a feeling for the relative merits of each of the discs; a heavy disc he will save for a crucial shot when it is important to knock the opponent off the mat, a light disc he uses for a placement shot at the beginning. The game is played for hours on end by successive players, the player who scores most victories at a session being adjudged the winner. A favorite time to play is in the cool of a moonlight night, when a full moon gives ample light to judge the discs.

524 There are no records of indoor or outdoor guessing games other than the children's games of *tolotoloungu* and *poi* nor do the Pukapukans seem to have indulged in riddling contests.

INTER-VILLAGE CONTESTS

526 [177] Outdoor sports competitions between the villages were very common. Of the large variety of such games, many have been submerged at the present time by a passion for cricket, which is played between village teams of men and women with any number of players on each side for two or three weeks at a time. Old-time games have not been forgotten, however, and our presence on the island was the incentive for their revival.

Coconut-tree climbing contests (*waingongo kake niu*). Two coconut trees are selected near an open space. The height of the nuts on one tree is measured with a rope; the same height is measured off on the other tree and marked on the bole by a fastening of coconut leaf. In contests where the two trees are of about the same height the winner is the one whose nut hits the ground first. Where the trees are of unequal

526 height, the winner is the one who, having climbed to the height indicated, first reaches the ground. Each contestant stands before a tree with a climbing bandage on his feet. The left hand rests on the tree trunk; the right hand is clasped around the tree. At the given signal (at present, on the count of three) each man springs up the tree and climbs as fast as he can. In coming down the tree he may slide as much as possible and leap from the tree when about 8 or 9 feet from the ground.

Coconut-husking contests (*yohunga niu papaku*). Three carefully sharpened husking sticks are placed in the ground, 1½ paces apart, to form the apices of an equilateral triangle. The husking sticks are carefully placed to make an angle of about 70 degrees with the ground. On a small coconut leaf mat impaled over the stick, the village husker kneels, squatting on an unhusked nut. Sixty *yakali* nuts are placed in the center of the triangle. Each husker impales a nut on his stick. At the signal the men start to husk and continue until all the nuts are husked, including the nuts on which the men squat. The man who husks most nuts wins the contest. One man may stop the contest at any time to repair his stick if it falls over or if its point breaks or blunts. Behind each man stands his second (*tokotoko*), a man from another village, who counts his nuts at the end. In an average contest, three men husk 60 nuts in 2 minutes. After one contest, the points of the sticks are resharpened and fixed in the ground again, and another contest follows.

526 Nuts are competitively husked not only in inter-village contests but also by villagers preparing for a feast, making copra, or dividing nuts from the reserves. At the present
245 time, in making copra at the reserves, after each adult has collected his weekly quota of from 100 to 200 nuts, all the young men, accompanied by children, women, and old men move from one pile of nuts to the next, holding a husking contest at each pile. In this contest two or more men compete against each other until the pile is finished. The group spends the whole day going thus from one pile to the next. Sometimes a women's team accompanies the men to husk the nuts of the women, at times competing against the men. The mixed contests are occasions of great fun-making which reach a climax if a woman defeats a man. The women wax jubilant, and the onlookers hurl all sorts of advice and ridicule at the unlucky man, who is glad to make his escape. The news spreads like wildfire through the copra settlements. The old men are quick to make suitable witticisms, and it is long before the defeated man hears the last of his shame.

526 Composite dart-throwing contests. Held on an open space (*malae*) usually on the beach at low tide. An exhibition contest was given during our stay. The *malae velo* (dart-contest space), the beach in front of Loto village, was cleared of rubbish before the contest commenced; men of Yato cleared one half, men of Loto and Ngake the other half. Rubbish was thrown into the sea, and the loose coral was pushed off to the side with the butt ends of coconut midribs. This made a clear space about 75 yards long and 15 yards wide. Two throwing pits (*tana*) were dug, one at each end of the *malae*. Each pit was 6 feet long and 3 wide, and sloped from the ground level at the rear to a depth of 1 foot in the front. The sand from the pit was piled up at the front end to form a small batter used as a throwing base (*muli tana*).

The composite dart, *velo*, is described on page 214. The thrower takes the dart in his right hand, holding it at the *yiku* end with the thumb and middle finger, the index finger steadying the *yiku* tip. To test the hold, balance, and aim of his spear, he takes a preliminary run (*liolio*). He starts five paces behind the *tana*, takes several quick steps forward toward it, holding the dart with the forearm vertical, the dart horizontal and level with or a little higher than the shoulder. He stops in his run and, with the fingers of the left hand, plucks ([illegible]) the dart at a point about 2 feet from the *yiku* end. Then he moves back to the starting point, makes another *liolio*, and again tests the dart to be sure that his trajectory is correct. The third time, he advances to the *tana*, plants his left foot against the batter, and hurls the spear (*wakapoi te velo*). A well-thrown dart moves through the air horizontally about 10 feet above the ground, strikes the ground at an obtuse angle, and then slithers (*totolo te velo*) a long distance

526 along the ground. A badly thrown dart goes to the right or left of the *malae* or hits the ground at such an angle that the *ulutoa* head digs into the ground and stops the flight. After each throw the thrower rubs the dart shaft with coconut shell to make it smooth and so aid in the slithering motion.

In composite dart contests each village competes in turn (*wakatele*) against the other two villages. Any number of men are allowed on a team (*lulu tone*), and there is no attempt to make the teams equal in number. All the men of one team throw first while the members of the opposing team gather around the *tono* and try to make the
[261] throwers nervous by witticisms and ridicule. Pronounced facial gestures in throwing are: biting and compressing of lips, baring and clenching teeth, wrinkling forehead. After the men of the first team have thrown, a mark is made on the *malae* at the point where the farthest thrown dart came to rest. Then the members of the other team throw. One point (*kai*) is scored for each dart of one team that goes past the farthest mark of the other team. Both teams then walk to the opposite end of the *malae* and throw again. Throwing from alternate ends is continued until one team has scored 10 points and wins the victory (*te te ulu*). The winning team sings a special chant composed for the occasion, and the next contest begins. The lowest ranking team in any three-cornered competition, including dart throwing, is termed *palehimuli*.

Simple dart-throwing contests. Two teams of any number of men compete at one time. The *malae* is a strip of the village road about 90 yards wide with the two ends cleared for a distance of 10 paces, providing a smooth surface against which the simple dart (*tika*) will ricochet. The thrower holds the dart (*tika*) between thumb and middle finger, the index finger resting against the end and steadying the balance. The player turns sidewise, takes a few short steps forward, and throws the dart with a quick underhand forward swing of the arm. The aim is to make the end of the dart strike against the cleared place at an angle so that it will fly through the air in a graceful trajectory or skim along the ground. All the men throw from one end, then walk to the other end of the *malae* and shoot again. The scoring is the same as in composite dart throwing. The winning team chants after each win. Simple dart throwing is a very popular sport. The darts are quickly and easily made from *ngayu* wood. For many weeks before and
857 after a contest the young men practice dart throwing each evening on the village road. The children make darts for themselves—even children 2 years old manage to acquire them—and both boys and girls imitate their elders, either throwing against each other in miniature contests or throwing darts before them as they go about their errands.

526 **Running races** (*weiele*). These are popular today, but as they do not figure in old chants, there is some doubt as to their place in old-time Pukapukan culture. Races are held on the village road. In inter-village contests straight foot races are first run to determine the fastest runners. Then a series of "handicap races" is held. The slower runner stands on the starting line. A few paces in advance of him is the faster runner. At the signal the slower runner starts, and when he comes to the stationary faster runner, he gives him a push (*tuleki*), trying to knock him over but continues his own pace without too much slackening of speed. The faster runner expects the blow and tries to take it in such a way as not to over-handicap himself; he crouches to keep his balance so that he can spring up as soon as the slower runner passes him, and by this springing start to make up for his initial handicap before his opponent reaches the finishing line. It is not considered unfair to stall an opponent by running in front of him and across his track. A good runner is called *tangata vaeole* (man of swift foot).

WRESTLING

526
186 Wrestling (*popoko*) is a very popular sport, and the Pukapukans pride themselves on being the best wrestlers among the Polynesians. Wrestling
527 was one of the sports indulged in during the festival that formerly marked

[527] the morning rising of the Pleiades. It is now one of the many competitions
that are part of the Christmas and New Year's celebrations.

526 At the present time there is little preliminary training before these bouts,
but formerly training (*wakayaua*) was a prominent feature. The aim was
to increase one's weight so as to make it difficult for an opponent to lift
one from the ground. Hence the champions (*toa*) of the village went into
536 seclusion (*kaitan*) for 30 days before a contest. A man remains thin even
if fed the richest of foods, say the Pukapukans, as long as he is allowed
826 to go out-of-doors in the sunlight. Feed a man rich foods and keep him
261 covered up in a dark house and he will get fat and heavy in a very short
time. A seclusion period for a festival wrestling contest is termed *kaitan
lulu*. At the end of the period the men were released from the house of
seclusion to practice wrestling for several days. The regimen during these
few days provided that a man might not work lest he injure himself, or
526 engage in other sports lest he strain a part of his body, or have sexual inter-
[534] course lest he lose weight or lose breath easily in a contest; he must con-
tinue to eat plenty of food and practice wrestling holds. On the day of the
contest the long hair was smeared down with oil and fastened at the back of
the head with a strip of pandanus. The body was smeared with oil, and
the wrestler put on the malos of sennit and of pandanus.

The following account describes a series of bouts that went on all of one day. Apart from drawn bouts, 76 matches were contested to a win. Of this number Yato village won 32, Loto (the previous champions) won 19, and Ngake 25. At the next festival Yato would be the challenging village, and its champion the champion wrestler of the whole island.

> When the wrestlers of the challenging village are dressed, they line up in file with their champion (*toa*) at the head and walk at an easy gait along the main street of the island. Their faces are serious; there is no laughing or joking. The villagers show no interest nor do they come from their houses to hear the challenge. Every 30 yards or so the men stop and the champion shouts out his challenge (*vanange*) to the men of that part of the village. The form of the challenge is: "E tai tane ikina, pelela to malo, tai ake to ulu, yaele ake ki te one i te konga o mea" (Any man there, gird on your malo, prepare your hair, come to the ring at the place of So-and-so—mentioning the name of the place where the ring is erected). After shouting this challenge in many places in both villages, the group returns to the wrestling ring. Today this is the church ground, where shelters are erected, one for Yato villagers on the west side, one for Loto and one for Ngake on the east side. The people sit under these shelters, and the wrestlers sit in the shade of the thatched roofs. Formerly the ring was erected in any convenient open space, and the people sat in village groups.
>
> Meantime the champion's ring (*one*) has been erected on the wrestling ground. Five or six poles of *ngangie* wood are pushed lightly into the ground in the form of a circle about 10 paces in diameter. A thin sennit cord is strung to these poles about 4 feet from the ground. The champion of the island, supported by a second called the *tua kaoa*, advances from his shelter to the ring, where he challenges (*liolio*) the other men by beating his buttocks (*pakipaki te lemu*) with both hands and trotting around the outside of the ring with short, quick steps. At each halfway point he pauses, raises the

sennit cord of the ring with one hand, peeks under the cord into the ring, kicks one foot into it and the other foot away from the ring, and then trots on. He goes around the ring two or three times. Then the two men duck under the cord and enter the ring. The champion stands in the center, his second at his side. An opponent (*nawa*) advances from his shelter, enters the ring, and the two men wrestle. After a few seconds' wrestling, if there is no throw, the second stops the bout. Other men from the second village and from the champion's own village enter the ring in turn and wrestle, but the second stops the bout each time. Though the wrestling is not taken seriously, the champion is now considered unbeaten in these preliminary trials; and the ring is said to remain in his possession. He and his second take down the ring. Had the champion been beaten in one of these contests, the ring would have passed to his opponent and the opponent would have removed the ring. Only recognized champions of their respective villages have the right to wrestle with the island champion inside his ring. Once the ring is removed and the challenging finished, the general contests begin. Bouts take place anywhere on the ground which, though unmarked and without a ring, is still called *one*.

A man from Loto, the challenging village, stands on the grass in front of his shelter, silent and looking straight ahead. A challenger from Yato advances toward the Loto man. When close together, the Loto man appears to notice him and the two men open (*wakaanga*) the match thus: Each man bends forward from the waist and grips the outstretched fingers of his opponent in an interlocking grip with his own fingers. The two disengage and swing the arms around to the back of the body, beating the hands against the buttocks. This is repeated several times, the men sparring (*liolio*) for grip, balance, and foothold. Then the two engage seriously and seek for a throw. In the old days famous champions dispensed with the sparring movements, rushed straight at their opponents, and sought for a surprise grip and unexpected throw. If a man did this when his opponent was expecting to spar, he generally took his opponent off guard and threw him. There is nothing unfair in these surprise rushes.

Instead of advancing only one man, the challenging village may advance three or four men who wait for a contest. One opponent comes forward, and the one among the challengers who is considered a fit match for him waits while the other men retire. If the other villages are backward in advancing a man, the challenger walks up and down before the shelter of his opponents. He does this carelessly, silently ridiculing the apparent faint-heartedness of his opponents. This invariably shames the opponents into advancing one or several men, in which case the challenger indicates the man he wishes to wrestle by engaging his fingers. After each bout the winning village is supposed to issue a challenge for the next bout. If the bout is a draw, the initiative remains with the previous challengers.

Each match lasts for 35 to 45 seconds of intense struggle. A bout is won by causing opponent to fall, by lifting opponent's feet clear of the ground, or through opponent's allowing part of his body other than his feet to touch the ground. Any wrestling hold is termed *liko* or *tango*. To lift from the ground by grasping the front of the malo is *liko i te vae malo*. A malo that comes loose and provides a good handgrip is *malo matala*. To throw or lift by grasping the thighs is *liko i te tenga;* to lunge or dive forward and grasp the leg or thigh is *hoi te tenga;* to push a man to the ground as he lunges for the leg is *patu tua vae;* to throw by any means is *ui*. Other holds are used: to dive for the knees and pull them from the ground, which is countered by locking (*pokia*) the other's neck under the arm, trying to throw him off his balance by a sudden twist of neck and shoulders; and to hook a foot behind opponent's leg and trip him with a sudden push. Long arms and heavy weight are considered an asset in these holds. Striking with the closed or open hand, grasping vital organs, and twisting limbs so as to inflict pain have no part in Pukapukan wrestling. Even though there is no referee for the bouts there seems to be no temptation to indulge in unfair holds.

If no throw occurs at the end of about 45 seconds of wrestling, the bout is considered a draw and either wrestler indicates this to his opponent by relaxing (*wakaea*)

526 his body. They immediately disengage and walk back to their shelters. A man may stop the bout after only a few seconds' wrestling if he feels so inclined, simply by relaxing. This he does because he is out of breath or because he feels that his opponent is too strong for him. There is no desire to triumph over an opponent who is weakened by exhaustion or lack of strength. This would be considered no victory at all, for the opponent is simply not worthy of one's own superior strength or skill. Thus a draw results from a contest between two men so well matched that it is futile to struggle and exhaust themselves; or from a contest between a champion and a weakling, where neither considers it any disgrace to retire with fictitious equal honors when the odds are so heavily in favor of one. This concept of the drawn bout may also have been reenforced by the fact that many men wish to wrestle during the one day and it would be selfish to spend too much time over any one contest.

The men of each village are grouped into three classes of wrestlers (*kau tuve*, strong men): *mua vaka* (canoe bow), a team of younger men; *loto vaka* (canoe middle) a team of middle-aged men; and *muli vaka* (canoe stern), a team of old, experienced veterans. The *mua vaka* wrestle first during the day, then the *loto vaka*, and towards the end of the day, the *muli vaka*. In general, men from corresponding teams wrestle with each other, but in theory a man has a right to wrestle with whom he pleases; and should a young man be bold or disrespectful, an older man may wrestle with him and try to throw him in order to subdue his forwardness. Some contests are also provoked [578] by a desire to pay off injuries due to previous ridicules, slanders, or alleged adulteries. To fell all opponents is *papaki*. For variety, an experienced champion may challenge two men to wrestle with him at one time. If he defeats these two, he goes on to wrestle with three men and more until he is finally thrown. This type of wrestling is *pulenga*.

The behavior of the spectators during the bouts is quiet and restrained. The people
526 sit or lie about in the shelters but watch intently. They do not coach from the sidelines or interfere in any other way. As soon as a bout is won, however, the villagers are
186 on their feet to commence the taunting chant (*tila*) before the champion is back in the shelter. Many chants are composed for the occasion, and old ones are practiced on the
621 night previous to the contest. The words insult the other village and boast of the prowess of the home village (1). They are accompanied by dance movements of the
533 arms, legs, buttocks, and abdomen in rhythm to the chanting and handclapping. The enthusiasm is the same whether the victory is gained by a recognized champion or by
535 some obscure weakling over another weakling. The chant finished, the spectators quickly subside and await the next contest. Little notice is taken of a draw. The wrestlers sit to the side and quietly talk among themselves in the intervals between bouts. The children play up and down the wrestling field. Though driven away at regular intervals by a shower of pebbles, they are soon back again, running foot races and wrestling among themselves. Spectators often find these more diverting to watch than the adult contests.

526 Shoulder-pushing contests (*lukipoko*) were formerly in vogue but are not popular today. In an exhibition the young men had to be coached by the older people before they could proceed. *Lukipoko* contests between two or more young men in the god house after a seclusion period were called *tukupuu* (p. 283). In the exhibition contest of shoulder pushing were three teams, each consisting of five men.

The teams line up in three files. Two teams, A and B, kneel on the ground with 5 yards between the two files, facing the third team, C, also in file, about 10 yards in front. All three teams perform the *lupe* ritual. Team C advances in zigzag fashion with short quick steps. As C gets close to A and B, it selects one team to engage. The two first men of A and C engage shoulders and push (*tutuki*) each other, C men push-

826 ing behind C leader and A man pushing behind A leader. The team that overwhelms and scatters on the ground the members of the other team wins the contest.

Stick-pushing contests (*tutuki*). Two men or two teams hold a stick between them and push against the stick in an effort to force the other side to give ground. The *tutuki* pushing contest, the method of establishing land boundaries (p. 33), was apparently also used as a sporting contest in former times.

WATER SPORTS

Canoe-paddling races (*wainganga vaka*) and canoe-sailing races (*wainganga liaki vaka*) are held today. In the paddling races, men compete with men and women with women, the canoe crews ranging from one to five persons. A course is mapped out on the lagoon from the place in Ngake called Waletoa to a point on Loto beach. The canoes of two villages are launched and held steady by a man from the third village. At the signal the canoes are freed. The first canoe to beach is the winner. There is no chanting to give rhythm for the paddlers. In sailing races the course is across the lagoon to one of the reserve islets. The canoes are held with sails raised and set off at the signal. The canoe that beaches first at the agreed point is the winner. The winning village chants and dances to celebrate the triumph. Each village races with each of the other two villages in turn.

[621
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Swimming races (*wainganga kaukau*). Held today between women and between men. Champions from each village race those of other villages; the races are over a lagoon course. Because there is no reference in old chants either to swimming contests or to canoe contests, it is again doubtful whether these are old-time sports. Surfing (*wakayekeyeke*), both body and board, is old, though at the present time neither competitive nor popular.

FISHING CONTESTS

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Inter-village fishing contests have survived vigorously to this day. They are of three kinds: *wainganga patuki*, rod-fishing contests from the reef for *patuki*, *talao*, and other reef fish; *wainganga malolo*, flying-fish contests held at night; and *wainganga kahai*, or *malama*, deep-sea fishing contests. Formerly, and the pattern largely holds today, about two fishing contests of each type were held in the pleasure months between the morning rising and the evening rising of the Pleiades. About five days before a fishing contest, a prohibition (*lau*) was placed by the chief over the reef or deep-sea fishing grounds to ensure that the grounds would not be depleted and also to give the men time to repair canoes and to prepare fishing gear. During these days the men were supposed to stay in their houses, to be serious-minded, to concentrate on the coming contest, to refrain from sexual intercourse, and to see that all fishing gear was in good order. This period is commented upon in many of the fishing chants; the pattern of a tapu fishing period, if not all the actual observances associated with it, survives today.

[834]

226 621 In reef-fishing contests, groups of three men, one man from each village, fish from separate locations along the reef for two successive days, stopping each evening at a mutually decided time. Each day's catch is taken to the village, the heads cut off and counted. Formerly the fish were counted on the meeting place of the old men. The village with the greatest number of heads wins the contest and has the right to chant and dance on the third day.

226 574 868 Flying-fish contests are held at night, usually for one night only. The fishing procedure is given elsewhere (p. 58). The canoes come back in the small hours of the morning and anchor in the lagoon. The crews come ashore, leaving one man on each canoe as a guard. In the morning the canoes are beached and the catch counted. The fish are cooked for a feast on the following day, when the winning village has the right to chant. During the season for flying fish the young men engage in netting practice (*[illegible]*) on the beach each evening. The practice nets are made from the aerial roots of the pandanus (*yulu* variety). The "fish" are pandanus keys. One man kneels on the sand with a pile of keys before him. One or two netters stand facing him about 15 paces away with nets in their hands. The thrower tosses the keys very quickly with one or both hands towards the netters, who attempt to catch them as they come flying through the air. Older men comment and give advice to the more inexperienced. The practice is considered as much a game as a serious preparation for the fishing by keeping the eye in training and maintaining skill.

226 776 782 Formerly the village men consulted the gods of the paternal lineage to procure good luck in deep-sea fishing contests (*[illegible]*). It was believed that the gods would order their attendant spirits to send the fish to the canoes of one village only, at the same time barring the fish from the canoes of the other two villages. As this was a challenge to the gods of the other villages to break down the barriers surrounding the canoes, each contest became a test of the powers of the gods of the respective lineages. The modern Pukapukan holds to this old pattern when the men of each village come together for a prayer meeting before each day's fishing (as they do for all other contests), and when one man of the fishing fleet offers up a prayer before the lines are dropped overboard.

226 Before an exhibition deep-sea fishing contest no deep-sea fishing was done for five days. On the first of these five days the men of each village met together to arrange canoe crews, and on the succeeding days they continued to meet to repair fishing gear. On the night before the contest the Yato men fished in their fishpond for *ava* (milk mullet) to use as bait; Ngake villagers went to Motu Ko to catch *atule* (herring) for the same purpose. On the morning of the fishing contest, the men collected other bait for the regular fishing. The trolling canoes (*vaka takataka momao*, distant circuit canoes), which are a regular feature of these contests, were away by 3:30 a.m., one from Yato and one from Ngake but none from Loto because that village controls no section of reef or fishing pond from which it can draw trolling bait.

224 262 [554] The trolling canoes are fully manned six-seater canoes (*yekeeno*). They leave the reef by the passage and circle the atoll from north to east. Then they come back to the passage and circle the atoll from south to east, trolling for bonito and *pala* fish and looking for turtles. They join the fishing fleet on the fishing ground (*pakeke*) at about 3:00 p.m. and fish with the regular fleet for the remainder of the day. Their circuit of the atoll is made on both fishing days. The wife or other female relative of the captain of each trolling canoe provides the food for the canoe crew. Called the *pakupaku*, she prepares quantities of the talo dish *likoliko*, which she puts in the canoe each morning before the start. The canoes troll with bonito rod and hooks and with hand lines. When the crew rest from paddling, they fish with hand lines. All the countable fish caught by these canoes go to the general pile of village fish, but smaller fish left over after the canoe crew has eaten raw as much as they wish while in the canoe, must be given to the *pakupaku* in return for her food. Membership in the crew of a trolling canoe is no light honor. The two days' circuit round the atoll is a task for brawny paddlers only, especially if the trolling is without much success; and the crew earn well the after-contest rest.

226 At the end of each day's fishing the canoes come ashore; the fish are taken to the village meeting place; the head, gills, and heart of each fish are preserved as a record, and the body of the fish given out to housewives to cook for the feast on the third day. The count for fish is as follows: albacore, bonito, *palo*, *humai*, and *wangu* fish count one each; one female turtle counts as one fish, but a female turtle with eggs counts as one fish plus one fish extra for each egg she carries. Hence a female turtle may count as high as 140 fish, and the village fortunate enough to make this catch is almost sure to win. A male turtle formerly counted as 50 fish, but owing to recent dispute this has been lowered to 10 fish.

The return of the canoes is accompanied by great animation. The villagers gather on the beach to watch the canoes land. It is dusk and coconut-leaf torches light up the scene. Children sport in the shallows and cry out excitedly whenever a canoe returns with a good haul. There are many disputes as to the total village count of fish and rumors of the fish counts from the other two villages. On the second day excitement quiets down only when a band of young men comes racing back from a visit to the other villages with definite news of scores. Formerly when the canoes were beached, 833 it was permissible for the women to taunt and joke with the men in the fullest freedom, and under cover of the dark to pick out lovers and slip away with them to the bush. Single and married men participated in this freedom, and no after-complaint about an erring spouse received any attention. Old chants carry reference to these occasions of permissible freedom in sexual relations (1).

On the third day the people gather together for the food divisions. Fish from all 574 three villages, together with a levy of 10 nuts for each adult and much prepared talo, 553 are placed in a pile and divided among the lineage groups in each village. The winning village spends the day chanting songs of insulting and glorifying nature and doing 621 appropriate dances. The chanters are dressed in leaf decorations according to village tradition.

184 Losing a fishing contest is due to breaking the tapus governing the pre-contest prohibition period, or to adultery on the part of the women left in the villages, or women's quarrels, gadding about, and laziness at mat making and domestic tasks while the men 226 are not present. The women are supposed to be especially industrious while the men are fishing, and if a man comes home and learns from gossip that his wife has been idling about, he is justified in beating her for having thus provoked bad luck. In an- 577 other exhibition fishing contest in which Yato men won, ill-behavior of Ngake women was given as the cause for Ngake's defeat. Loto was defeated for this reason too and 461 also because of antisocial conduct on the part of some fishermen in the division of fish. Instead of taking all fish caught to the village meeting place to be divided, individual fishermen kept back fish for the sole use of their families. One man also removed a *hakai* head from the fish pile without waiting for the decision of the food dividers. It was suggested by informants in the other villages that this behavior was so disgraceful that it was doubtful whether Loto village could win a fishing contest for many years to come.

MAT-MAKING CONTESTS

621 In former times women held mat-making contests (*waingunga panga*). A day was fixed for the starting of the plaiting. The village that first fin- 285 ished the required number of mats was the winner of the contest. The number of mats was specified beforehand. They were of a standard size with decorative borders added if desired, though the contest was primarily one for speed. The winning village had the privilege of making a grand parade through the villages, showing off the mats (*liaki na panga*) and chanting as they did so.

WARFARE

721 There is no record in Pukapuka of pitched battles between opposing
groups, or of warfare existing within the social structure of a definite insti-
669 tution. The atoll was too small, the total population too few, and the amount
of available land too little for institutional warfare to have developed. In-
formants definitely asserted that warfare was unknown on Pukapuka. They
were correct in one sense, but the existence of weapons and stories about
578 fighting shows that the island was not always at peace. Fighting incidents in
stories of the fighting at Walètoa (p. 389), the fighting against Yangalipule
po (1), the fighting of Tuiva against the men of Yato (p. 395), the fighting
against Uyo (1), and the fighting of Te Nana in Yayake (p. 403) reveal that
such fighting was caused by violation of the tapu of the reserves, quarrels
over food divisions, personal rivalries, quarrels over division of the reserves,
579 and like matters. The fighting that occurred rarely rose above the level
of brawling, but where a pitched hand-to-hand contest resulted, much blood
762 seems to have been shed for little cause. The number of deaths in these
contests seems to have been increased by the fact that losers habitually com-
mitted suicide by having relatives bury them alive.

The following customs relate to fighting:

579 At a meeting for the discussion of highly controversial matters, a net of *welo* bark
was hung on the beach nearby as a warning to all to keep the peace. Anyone wishing
626 for violence had to declare his intentions by tearing down the net, which not only pro-
voked secular violence from opponents but also punishment from the gods for violating
778 the tapu of the net.

A man prepared for fighting by tying up his long hair and girding on his two
714 malos, the malo of sennit and the malo of pandanus. The double-wound coils of sennit
round waist and abdomen served as protective armor for the vital organs against spear
thrusts. There is no record of body painting or decoration.

Weapons were kept in the sleep house on the platform, laid across the tiebeams, or
613 in the armory house (*wale lakau*). Each of the principal paternal lineages possessed
its armory, a house of the *wale wakayamoo* type. Some such houses were built on the
702 boundary of the principal cemetery of the lineage; others were close to the principal
god house of the lineage. In this house the men of the lineage and the sub-lineages
stored their heavy spears and clubs, keeping at home only smaller weapons like fish-bone
knives. The armories were not tapu; anyone might visit them at any time, and they
[765] were kept in good order by the attendants of the god house. The weapons were stored
in these houses on platforms, leaving the ground space clear for use by overflow mourn-
ers from the mourning houses when many people of the lineage stayed at the cemetery
579 during a period of mourning. In case of alarm, a man girded on his malo at home,
picked up his smaller weapons, and ran to the armory of his lineage to select suitable
613 spears and clubs. He might, in dire need, steal a weapon from an armory not belonging
to his own lineage, provided he could gain access to it.

609 Immediately following a war alarm or the sighting of foreign vessels offshore, the
priests of the lineage went to the religious structure (*awanga yu*) of the lineage, tied
679 coconut leaves to the stone of the god, and prayed for success in the coming meeting.
Where the men of Wale supported the high chief of the island against a group bent on
782 antisocial ends, the chief went to the sacred enclosure to pray to the goddess Tana, who,

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579 by her powers, invariably so affected the opposing warriors that they became crazed and,
in this condition, easy to kill. The story of Kuluea and Uyo (1) is instructive in this
776 regard as showing the power of Taua. Even so, Pukapukan belief holds firmly that he
whose quarrel is just is thrice armed; the eight men of Ngake in the fighting at Wale-
577 toa (p. 389) were therefore entirely unharmed or, if injured, healed quickly at the end
of a bloody day of battle.

When meeting strangers, as when Te Nana met Te Palo in Yayake, or
609 when meeting foreign vessels, the Pukapukans always challenged by throw-
ing a coconut-leaf midrib, called *kaleva manu* (*kaleva* bird) or *yiliyili* (ques-
721 tion). If the strangers kept the missile after it had been thrown at them, this was a sign they came in peace. If they returned it, this was a sign that their intentions were hostile. If the first leaf was returned, two more leaves were thrown before the return of the missile was taken as a definite sign of warfare. The war cry of the people of Pukapuka was: "Manava Pukapuka . . . i . . . a!" (Stomach of Pukapuka . . . i . . . a!)

701 A definite form of organization was worked out for meeting foreign vessels or canoes:

609

The two paternal lineages, Yangalipule and Yalongo, united to form the *mata kawa*
726 (advance guard that went first to the foreign canoes). The two lineages, Muliwutu and
i Tua, united as the *wui toina* (reserve or supporting division). The lineages Matanga, Yamaunga and Yayi, were together the *muli kawa* (home division). The captain of the advance canoe of the *mata kawa* carried with him the coconut *yiliyili* (question). As his canoes came up to the strangers, he stood up and hurled the "question". It was arranged before the launching of the canoes which canoe would go first, and the privilege of throwing the *yiliyili* (also the position of danger as hostile canoes would attack the leading canoe first) was shared in rotation among the lineages comprising the advance guard. The supporting division followed behind the advance canoes ready to
give support if the *yiliyili* was returned. The home division remained on shore to guard
[202 the women, children, and the land, should the strangers attempt to make a forced land-
ing. All the men on canoes or land were armed with weapons. Signals from the canoes
to the shore were made by the flashing of wet paddles in the sun.

As soon as a strange vessel was sighted, the women went off to the talo beds and
264 came back quickly to prepare a hasty talo meal for the men. (Tuiva could not himself
set out to fight, even though he knew his enemies were looking for him, without first
726 sending his wife to the talo beds to get talo to make a food complement for the fish
which he was himself going to catch.) After a quick meal, the men girded on their
malos and took up their weapons. The priests prayed on the sacred enclosure for the
609 protection of the gods. The canoes were launched, and the advance and reserve groups
paddled to meet the strangers. The home group lined up on the beach and organised for
resistance.

712 No fortifications, either of stone or wood, were used by the Pukapukans.
In land warfare it was customary for each warrior (*toa*) to be accompanied
701 by one or more younger men who carried his spare weapons, much in the
same way as knights were attended by squires. This is well brought out in
the story of Tuiva.

TRADITIONAL HISTORY

ORIGIN

114 Two previous accounts of the origin and traditional history of Pukapuka
113 have appeared. One was written in 1877 in the Rarotongan language, probably by a Rarotongan native missionary in Pukapuka and recorded by Gill
113 (13). The other was recorded in Rarotongan by Ula, the father of one of our best informants, Paū, and collected by Hutchin (18), who visited the island in 1904. Though incoherent and scrappy, probably because they were hurriedly written, these accounts give details which confirm the material that I collected where it is possible to equate names. Little information about traditional history has apparently been lost in the intervening years. The origin of Pukapuka is related in the following account: [1]

539 E toka kakao mai lalo o te papa o te moana. Kakao loa, kakao mai loa ki lunga. Tupu loa ki te walo.

Ko teia atua nei, ko Tamayei, e atua teia yau mai Tonga; no Tonga i a Tamayei. Yia loa i a Tonga e Maui Potiki. Wuwuti loa, wuwuti loa, ma te tautapa ki a Maui Mua ma Maui Loto, "Onoonowiake taku ika nei, pewea?" Ko kikokiko i a Maui Potiki e tana ika ia. Wuwuti loa i a Maui Potiki. Wuwuti loa ma te valovalo ki a Maui Mua, "Onoonowiake, pewea taku ika nei?" Koa tipi te ika, tipi ki te toe kaokao, tipi ki te toe kaokao. Koa pau te kawa lunga, koa pau te wuwuti ki loto o te vaka ma te wuwuti a Maui Potiki.

Oko loa ki te kawalalo a Maui ma te talatala i a Maui ki a Maui Mua ma Maui Loto, "Taku ika nei e yaya ulua, mo?" ma te wuwuti a Maui Potiki. Wuwuti ki lunga, wuwuti ki lunga. Tauvalo loa i a Maui Potiki, "Onoonowia te papalangi, koa lele na vave o te ika." Onoono i a Maui Mua, e ulu lakau teia. Kaka loa i a Maui Mua,

"Wooo, e wenua te mea nei." Wuwuti loa ki lunga, koa oko ki te konga o tana kau. Kakalo atu latou, koa kakao mai te toe konga o te ulu lakau. Kakao oki te toe konga. Kakao oki te toe konga. Wuwuti la, wuwuti la, oko ki lunga. Ili loa te vaka ki lunga. E wenua pe te ika ya wuwuti e Maui. Ko Tonga teia wenua. Koa pae ki lunga te wenua.

A rock came up from below the rock-bottom of the sea. It came up, came up on top. It grew to be large.

This god, Tamayei, was a god, this one, who came from Tonga; from Tonga was Tamayei. Tonga was fished up by Maui Potiki. He pulled up, pulled up, appealing to Maui Mua and Maui Loto, "Look here, what is my fish?" Maui Potiki was being mightily resisted by his fish. Maui Potiki pulled in. He pulled in, calling to Maui Mua, "Look here, what is my fish?" The fish was pulling, pulling to one side, pulling to the other side. The top line was finished, finished pulling inside the canoe, by the pulling of Maui Potiki.

The lower line of Maui was reached, with Maui saying to Maui Mua and Maui Loto, "My fish here is a yaya *ulua*, isn't it?" with Maui Potiki pulling up. He pulled up, pulled up. Maui Potiki called out, "Look at the horizon, the strengths of the fish fly." Maui Mua looked, these were tree tops, Maui Mua shouted,

"Wo! This is an island." He pulled up, reached the place of his fishhook. They looked; another part of the tree-tops was appearing. Another part still appeared. And another part appeared. He pulled up, pulled up, reached the top. The canoe rocked on top. The fish pulled in by Maui was indeed an island. Tonga is that island. The island floats [illegible]

[1] [See category 539 or 116-- analyst.]

539

Mimia loa te wui atua, ya lulu i lunga o te wenua. Yuki mangawanga te wui atua. Wano atu te wui atua ulu ke tai ona konga nanai. Wo na toe atua olu atu ki na toe konga. Yau loa la i a Tamayei. Ulu mai la te moana ki Tokelau. Yau loa mai Tonga, yau loa e, oko mai loa ki te moana nei, pae ai lunga o te kilitai. Takayeu ai ma te onoono ki lalo. Ko kakao mai te watu ia mai lalo o te papa o te moana. Onoono ai, e waingata. Niko loa wakawou ki Tonga. Kali ai iai ke to loa, yau oki wakawou. Ko tona tino ya yau ia e tino kaka. Yau oki ki te mea ya onoono ai muamua. Inoino ai ma te onoono ki lalo. Koa yau loa ki te tiketike te tupunga o te watu ia. Wano oki wakawou ki Tonga, kaliai iai ke to mo loaloa. Yau oki wakawou. Lele mai loa, ino oki ki lunga o te mea ya onoono ai muamua, onoono atu ki lalo; koa wakakena mai mai lalo o te newu o te moana. Wano loa wakawou ki Tonga. Kali ai ke ili ni lua ayo. Yau loa, ko tona tino atua tika. Kakao mailunga o te kilitai. Onoono atu ki te mea ya wakakena mai i te tolu o tona yaunga. Koa wano loa ki te ula. Pae loa la i lunga. Onoono loa, kali loa, kali loa, kali loa e; ula ki lunga. Kite loa i ana, e wenua. No loa ki lunga o te watu.

Ngawa loa te tangata mai loto o te watu. Ko Mataliki te ingoa. Onoono atu i a Tamayei, e tangata ko loto o te watu. Wuhungia loa i a Tamayei. Wano atu loa i a Tamayei i tona wanonga. Koa pau tona talatala.

No loa i a Mataliki i lunga o te watu, ma te wakaope mai te kelekele, te kilikili ki lunga o te toka.

Ke no i a Mataliki ki lunga o te toka nei, wowou loa i te wenua nei e te wui atua. Wowou atu, talipili atu ki Yamoa; wowou i te toe konga, talipili atu ki te atu laulau. Wowou atu oki ki tokelau, talipili atu ki te Pa Lakawanga. Ko wai ta latou yanga nei i loto o te po. Onoono ake i a Mataliki, kae wolo tona wenua, kae talipili mai ni wenua ki tawa o tona wenua. Lili loa i a Mataliki. Wakamalama loa i te ao. Mimia loa te wui atua. Maka loa i ta latou wowounga i te wenua.

The many gods who had gathered on the island hastened away. The gods ran off in all directions. The gods went to seek their place to hide. Some gods went to other places. Tamayei came then. He searched throughout the sea to Tokelau. He came from Tonga, he came, finally reached this sea, drifting on the surface. He circled around looking down. The rock was arising from the rock-bottom of the sea. He looked, it would take a long time. He returned again to Tonga. He waited there for a while, then came again. His body with which he had come was the body of a ghost tern. He came again to the thing he had first seen. He circled over it, looking down. The growth of the stone was becoming high. He went again to Tonga, waited there for a longer time. Then returned again. He flew here, circled around in the air above the thing he had first seen; it was whitening below the spray of the sea. He went again to Tonga. He waited there for a few days to pass. He came, his real body of a god. He appeared on top of the surface of the sea. He looked at the thing that had been turning white at the third of his comings. It was turning red. It floated on top. He looked, he waited, waited, (and) waited e-e-e-, it was red on top. He knew, it was an island. He stayed on the rock.

Then the man from inside of the stone burst through. Mataliki was his name. Tamayei looked, it was a man inside the stone. Tamayei was afraid. Tamayei went off on his journey. His story is finished.

Mataliki stayed on the stone, piling up sand, the corals on top of the rock.

While Mataliki was living on the stone, the island was being built up by the many gods. They built it up, it grew near to Samoa; they built up the other part, it neared the distant lands (*atu laulau*). They built it up also to the north, it neared the Lakawanga group. They were doing this work in the middle of the night. Mataliki watched lest his island grow large, lest some islands come close to the side of his island. Mataliki became angry. He made the day dawn. The many gods disappeared. They dropped their building-up of the island.

539 Yau loa Te Atua Vaelua ki a Mataliki. Talatala loa ki ai, "Wano koe uluua e wawine ma koe. Teia te konga ka wano ai koe; wano ki Tongaleleva, wano koe ki a Te Alo Talanga. Koiai tana tamawine. Ko te wawine ia ka aumai e koe, wai wawine ma koe; ko Te Vaopupu te ingoa o te tamawine." Wano loa i a Mataliki, wano loa, wano loa, e, oko kiai. Ulu atu ki te wawine na talatala mai i a Te Atua Vaelua. Kitea loa e Mataliki. Tango loa i a Mataliki i te tamawine ia, aumai loa ki Te Ulu o Te Watu na tupu ai i a Mataliki.

Nono ai te tokalua, nono ai, nono ai, e, koa loa te vaia. Yapu loa i a Te Vaopupu. Wanau loa, to loa te tama, e tamatane, ko Tumulivaka te ingoa. Pupute oki wakawou, to oki; e tamawine, ko Te Matakiate te ingoa. E tautua no Tumulivaka. Nono loa te tokawa. Nono ai ma te onoono i a Tumulivaka ki te waiwai a Mataliki. Koa opoopo i te wui atua ki ona tawa. Onoono loa i a Tumulivaka, ka kavea te wenua e Mataliki ki te wui atua. Lili loa i a Tumulivaka. Aka loa i te wenua, motu. Teka i a Mataliki ma Te Vaopupu ki te kaokao ki lalo. Teka i a Tumulivaka ma Te Matakiate ki te mata wenua. Oti ai. Tawanga loa ka tamaliki; tawanga ka matutua. Oti ai te tala o te tupuanga o te wenua.

The god Vaelua came to Mataliki. He said to him, "You go to seek a wife for yourself. This is the place you shall go; go to Tongaleleva. Go to Te Alo Talanga. There is his daughter. That woman you will bring back to be a wife for you; Te Vaopupu is the name of the girl." Mataliki went, he went, went, e-e-e-, arrived there. He looked for the girl mentioned to him by the god Vaelua. She was seen by Mataliki. Mataliki took that girl, brought her back to the Head of the Rock which had grown Mataliki.

The two lived on, lived on, lived on, e-e-e-; a long time it was. Te Vaopupu became pregnant. She gave birth to a child, the child was born, a male child, Tumulivaka was his name. She swelled again, gave birth also, a girl child; Te Matakiate was her name. She was a younger sister of Tumulivaka. The group of four lived on. They lived on with Tumulivaka watching the doings of Mataliki. He was gathering the many gods at his side. Tumulivaka watched, Mataliki was going to give the island to the many gods. Tumulivaka got angry. He stamped on the island; it broke in two. Mataliki and Te Vaopupu moved to the western side. Tumulivaka and Te Matakiate moved to the eastern side of the island. That was over. The two children mated and had offspring; the two parents had offspring. Finished is the story of the origin of the island.

173 It is evident from this origin story and from the genealogy (table 4, p. 241)[1] that the mythical establishment of the population of Pukapuka came
173 about through brother-sister marriages and close kin inter-marriage. The two children of Mataliki, Punga and Punga Momoto, are apparently introduced into the genealogy to account for the origin of the maternal lineages. Nothing more is heard of Te Vaopupu; unlike her daughter, she does not seem to have become a goddess.

173 The genealogy (table 4, p. 241) gives a total of 22 generations from Mataliki to the present day. Following the accepted practice of allowing 25 years to a generation, a practice which seems to err greatly on the liberal side, for atoll life at any rate, the founding of Pukapuka is set about 550 years ago. But this figure does not allow for the indeterminate number of years after the time of Wue and the seismic wave; a generation or more may have passed at this time without leaving any record. Confirmation of this is

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1. [See category 173 or 116 -- analyst.]

173 given in informant's statement that Wanguna, who caused much of the trouble at this time, was but a small child when Wue sailed away on his voyages, and that she gained power later when people were not sure whether Wue's son was going to return to Pukapuka to succeed his father or was going to live for the rest of his life in the land of Witi. (See p. 242 for other opinions.) Wue's son finally died in Witi (Fiji?) without succeeding to the title held by his father. Another period that is not allowed for in this count of generations is the period of Tuiva's regency between the twelfth and thirteenth chiefs. This probably lasted 20 or more years. Taking into consideration these two periods, about two generations, it would seem that Pukapukan history goes back in time about 600 years. The catastrophic seismic wave which overwhelmed the atoll occurred on this time-scale about 13 generations ago. Other genealogies place the occasion for this wave at 11 or 12 generations back. Allowing again for the regency of Tuiva, it must have occurred about 350 years ago.

Pukapukan traditional history before the seismic wave (*te mate wolo,* the great death) is concerned primarily with the following: voyages away from Pukapuka by Pukapukan navigators, the arrival in Pukapuka of migrants or visitors from the Tokelau Islands, a mass migration of settlers from a land called Yayake, further invaders from a land called Tongaleleva, contact between Pukapuka and Nassau Island, and the events that led up to the seismic wave. Accounts of canoe voyages away from Pukapuka to Tonga, Niue, the Tokelau Islands, the Gilbert Islands, the Equatorial Islands, and Manihiki are left for separate consideration because they do not add anything to the traditional account of the development of Pukapuka. Further stories about historic characters whose activities are incidental to the main story are left for separate narration also (1).

PERIOD BEFORE THE WAVE

IMMIGRANTS

The first canoe whose arrival in Pukapuka is remembered came from the west, probably from the Tokelau Islands, a long time before the seismic wave. It was probably a drift canoe, because it contained only one man named Te Mutu, a priest. The canoe landed at the reef channel, later called Te Ava-Mutu. Te Mutu settled down at the place in Loto called Utelei and built there a sacred enclosure. Many years later he built a new canoe and sailed away again from Pukapuka, never to return. He is remembered by the reef channel name, by the name of his enclosure, and by frequent references in chants. 173

173 Two accounts of the migration to Pukapuka of many people (*tini,* "more than a thousand") from the land of Yayake were obtained. This migration

173 occurred before the wave, but the chief at the time is forgotten. It is likely that it was during the reign of Kamola or before. The translation of the
173 textual account follows:

THE REVENGE (LITERALLY, THE OVEN) OF TWO GIRLS

539 They were from Tonga. These were their two brothers: Manawune and Tangaloa. The two girls went to Yayake. They climbed up at Na Tua-wuewue. They chanted. The island listened to the beauty of their voices. They went through the land to (the
173 chief) Tuyimate. (The people) were lifted up to the place to be made merry by the two girls. Tuyimate was placed below. Above were the two girls. They had climbed up on Na Tua-wuewue. "O Tuyimate, just look upward." Tuyimate looked up. The two girls fell down. Both were killed.

The night darkened. The two spirits went to Tonga to the place where were their two brothers, Manawune and Tangaloa. They climbed up on to the platform of the house. They, the spirits, cried: "We have both been killed." Their two brothers asked, "One left? All? None left? Both finished?" That was over. Their two brothers arose, girt on their malos, seized their weapons, launched the canoe, climbed in. They paddled to Yayake. Before their going they had already fought with Tokaipole and Taupeloa.

Arrived at Yayake, they burned Na Tua-wuewue. Finished, they went to the copulating places. These were the copulating places (*yau*): Poike, Niutao, Tane, Tapungaye. Went to the *yau* of Poike; they fought with Poike, struck Poike dead. They also struck down all the people. They went to the *yau* of Niutao, fought with Niutao, struck Niutao dead. They also destroyed his *yau* completely. They went to the *yau* of Tane, fought with Tane, struck Tane dead, ravaged his *yau*. They went to the *yau* of Tapungaye, fought with Tapungaye, struck Tapungaye dead, destroyed his *yau* completely. They ravaged the entire island.

Tokaipole and Taupeloa heard of this. The two of them came. They (four) met again. Tokaipole and Taupeloa spoke, "We can not fight, we have already fought in Tonga."[30] We shall sail away."

The people of Yayake sailed away. Some thousands went to some islands, other thousands to other islands. The group in which were Tokaipole and Taupeloa came to Pukapuka. They came to the south, where is the islet, Ko. They landed at Te Aumaloa. Taupeloa and Tokaipole talked, "Let us stay close to this island. Yayake is a bad-mouthed island. From early times the mouth of Yayake has been spoken of. We two shall break with Yayake so that we are completely apart." They went to the back of the island to the west of which Matawea is the name.

The large group stayed there at Te Aumaloa. They developed work. These were their works they developed: digging out talo beds, digging wells, and planting coconut trees.

There was born Te Vave-na-to-i-Te-Aumaloa (The Warrior-born-at-Te-Aumaloa), a male child.

This was his peculiar characteristic, he flew on high like a bird. He had no wings. This was his nature: when he flew above, he would go to the sea to catch mating turtles, to catch schools of bonito, to catch schools of albacore; to bring back to the group of the many Yayake people for them to eat. This was their further activity, making talo puddings (*likoliko*) and decayed coconut (*[illegible]*).

There developed a grudge on the part of one woman from having received an unjustly small share of the food. Kumawawine was her name. She went to Matautu, covered her head with a basket. She swam across the water to Matawea. She spoke to Tokaipole and Taupeloa. This was her betrayal, "You two, you watch out with your ignorance. Why, there's a warrior who has grown, a strong one who flies above. This

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[30] It was suggested that they knew the Tongans were too strong for them.

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173

is his other characteristic, he goes to the sea, catches turtles, brings back bonito, brings back albacore." Tokaipole asked, "Is that so?"

Tokaipole arose, took his spear, hurled it up to the sky so that it would be seen by Taupeloa who was at sea, who was fishing. Taupeloa looked there, the spear of Tokaipole was flashing. He said to his sailors, "What is it with my man that he hurls his spear? We shall go to the shore. There is probably something that has happened." They (the crew) came back to the shore, where Kumawawine was staying.

The two asked, "What is the nature of that strong man? Is his height like that of this black tern?" Kumawawine protested, "No, it is higher." They looked out, "Is it like that of that ghost tern?" Kumawawine protested, "No". They watched the tern which flew very high. The woman said, "Yes, like that." Tokaipole seized the spear, hurled it, so that it reached the tern. Finished, they struck the woman dead. This is the reason they killed that woman, that she might not return again and tell their words.

They stayed on. Arrived at another day, they went to seek their strategy by which Te Vave-ma-wanau-i-Te-Aumaloa would die. They saw their method. This was their method: an outrigger. They waited for a nasty day, pounding thunder, flashing lightning, rain. Finished. They went to press the outrigger on and so suffocate the group of the many Yayake people who had multiplied well. They killed starting from the road of Matika. They reached the Ivi-i-Mawuke. The outrigger was broken there by one strong man. A child had also cried out, "Give me my food." No, indeed, that was a warning signal. The warrior who had broken the outrigger arose, "Wo! Yayake, danger!" The people woke up.

Tokaipole and Taupeloa went on to Te Vave-ma-wanau-i-Te-Aumaloa. They were seen by him. He flew above. Tokaipole and Taupeloa chased him. Te Vave turned, he was going to fly to the other islands. He was made to return by the power of the goddess Taua. Te-Vave-ma-wanau-i-Te-Aumaloa flew along, flew over the outer reef. Tokaipole and Taupeloa chased him from below. They thrust their spears, they did not reach up, were too low. They reached the place, the Alai-of-Palaoa. Palaoa said to Taupeloa and Tokaipole, "Come, he's a bad one, this man flies above." Tokaipole and Taupeloa said, "Here in us is your lifesaver." Te Vave-ma-wanau-i-Te-Aumaloa flew, reached the sea at the channel, was going to fly to the north. The spear of Taupeloa shot out, straight to the ankle. Te Vave-ma-wanau-i-Te-Aumaloa fell down.

The people gathered there. They spoke, "What is the reason that this man flew? Just split him open." They opened him, he had eight hearts. They gave him the name Wata-manava-ani (Many-hearts). They also gave the name to the place where he fell, Wulumanu-a-te-tokalua (Bird-feather-of-the-two). They took Many-hearts and buried him at the channel. It is finished.

[173]

A second account gives other details about the extermination of the Yayake people at Te Aumaloa:

The Tongan warriors cut down big logs of *puka* wood and went to the Yayake village in the middle of the night. It was the custom of the Yayake people to sleep in open-sided houses, a line of people together, their heads resting on a long log serving as a pillow. The Tongans came to each house, placed the log quietly on the line of necks, and then by pressing hard at each end of the log they suffocated between the upper and lower logs all the people resting in the house. They continued killing until they came to the last house, where a child suffering from a nightmare kept calling to its mother, "E matua, aumai aku mea ke yamuyamu ai au" (Mother, bring me my things—food—that I may eat). The cries of this child woke the people of the house so that they were awake when the Tongans appeared outside. When the log was placed on their necks, one man jumped up and broke it in two. He alarmed the rest of the people, and all ran off in separate directions. The Tongans and their supporters chased them till dawn. At daylight they came on Te Vave resting on his stone couch or bench (*toka-welonga*) on the outer beach. They rushed to surround him, but he rose into the air and flew off down the reef. The account of his death follows the preceding account.

173 The Tongans continued to hunt down the survivors of the Yayake people. They warned the Pukapukans on Wale that the Yayake people were bad and vicious of tongue, so the Pukapukans gathered together the Yayake people, who came to Wale, took them to a space near the cemetery of i Tua in Loto village, and killed them all. A big grave (*lua*) was dug and all the bodies were thrown in. This place is known today as Te-lua-o-Yayake. Watu-mamava-nui was buried on the outer beach by the reserve of Niua. The seismic wave swept away his grave and his bones, and nothing remains of him on Pukapuka today. The site of his stone bench is still pointed out on the outer beach of Motu Ko. The original stone bench was destroyed generations ago. Another was built in about the same place, but this too is in ruins; only a few fragments of stone scattered on the beach remain as mute evidence of the place where the "bird man" was wont to cool himself in the evening breezes. Tokaipole was buried on the boundary between Loto and Yato, close to the cemetery of Tua lineage. Taupeloa was buried on the boundary between Loto and Ngake, east of the main village road.

Only one person, a woman named Kaui, is remembered to have survived the extermination of the Yayake people; she died soon after without leaving issue. The wretchedness of her existence on the reef rocks, intensified by the death of her Pukapukan lover, is the theme of a popular story fragment.

173 Some time after the extermination of the people from Yayake, another canoe came to Pukapuka. It was a big double canoe (*taulua*) with a crew
173 of 300 men; its owner and captain was Lunivaipapa, a warrior (*toa*) said to have been 10 fathoms tall. His crew were all at least 5 fathoms tall. The canoe came from Tongaleleva, a land to the north of Pukapuka, because to reach it from Pukapuka navigators sailed with the south (*pua*) wind dead astern. The name refers perhaps to one of the Equatorial Islands. The story of how this canoe came to Pukapuka was told by informant Pau after discussing it with other men:

> 539 At the time of the seventh chief, Kulona, there were two chiefs in Yayake, both possessed of special magical powers. The first chief was called Tuyiyauola; the second,
> 173 Tuyimate. Whenever Tuyimate looked on a person or animal or insect, the power of his gaze killed the creature. It was he who killed the two Tongan sisters in the account given above of the Yayake people. Tuyiyauola had the power of resurrecting life. Whenever he looked on a dying thing or person, life came back again; and in the land of Yayake a dying person was always brought to him to be given new life. Tuyiyauola also had at his command a very powerful magic which could reach over the ocean, even as far as Pukapuka or Uvea. He heard of a very beautiful woman in Pukapuka and he desired her. He put some of his semen into the half of a coconut shell, covered the shell with another half shell, and set it adrift in the sea. The shell drifted over the ocean and came to rest on the beach in front of Loto village. The woman whom he desired lived close by. She felt a power inside her. She walked to the beach and found there a coconut shell. She picked it up, took it back to her house and hid it. In the middle of the night, when all were asleep, she opened the shell and found the semen inside it. She rubbed the semen over her body and felt a longing for Tuyiyauola. The

woman waited and then discovered that she had conceived a child to which she later gave birth. The name of the woman was Yinakikimokimo. The child was a male child, but its mother gave it no name because this was the duty of its father.

The woman had two brothers whose names were Te Maunga-yui and Te Malo-kuneion. These two knew that Tuyiyanola desired their sister's child to succeed him as chief of Yayake, so they set out in a canoe to carry the child to Yayake. In this land Tuyiyanola had several wives and families (*pare*). These families lived in a wooden house several stories high, with platforms superimposed one above the other. On the lowest platform lived the fifth wife of the chief; on the next platform lived his fourth wife, and so on to the topmost platform where lived the principal wife of the chief. When the Yayake people and the wives of the chief saw the two Pukapukan men arrive with another child of the chief, they were angry. "Who is this child?" they asked. "Why bring it to the chief? This child can not be an heir to him. Throw the child into the sea."

Tuyiyanola became frightened at this talk and agreed to throw the child into the sea. But when the child was dropped into the ocean and left to drown, the tame whales of the chief picked up the child and, tossing it from one to the other, threw it back onto the beach. This was hailed as a proof that the child was meant to be the heir to the chief, so it was taken in and housed by the fifth family on the lowest platform of the house. The chief soon called for the child to be brought to him on the topmost story. The eldest child of the chief by his principal wife protested, saying, "This new child must not come before me in succession to the chiefly title." But his father would not listen and ordered the child to be brought before him. As the child was coming along the edge of the topmost platform, the eldest son made magic, and the child from Pukapuka fell to earth and died with a broken neck.

When the chief found this child was dead, he desired to send a gift of sympathy to the mother in Pukapuka. He therefore looked for someone trustworthy to bear a gift of a tooth from one of his pet whales to Pukapuka. He could find no one in Yayake. He sent for the Tongaleleva people, and when they came to Yayake he asked them to bear the gift to Pukapuka. They agreed and returned to Tongaleleva to find a canoe crew.

Lauivaipapa, the captain, tested his crew by striking each man on the back of the head with the fist. If the man's head did not bend forward, he was considered strong enough to become a member of the crew, but if his head moved forward under the blow, he was discarded in favor of a stronger man. Lauivaipapa chose his crew thus and sailed again to Yayake. The chief gave him the tooth, saying, "Be very careful of this gift. If you lose it, you will get into serious trouble. Go to Pukapuka and give it to the woman Yinakikimokimo."

The canoe set off but soon ran into heavy weather. Lauivaipapa thought the tooth must be causing trouble, so he dropped it overboard. After this the weather got better and the canoe sailed well. Recalling the chief's threat of trouble if anything happened to the tooth, he decided to go on to Pukapuka, kill all the people there, and settle down himself on the island away from the anger of the chief. He made a landfall in the middle of the night. It was a dark and stormy night with rain, wind, thunder, and lightning. This bad weather was caused by the Pukapukan gods so that the strangers might not clearly see the island or the people on it. The canoe therefore came up to the reef and dropped anchor to ride out the gale and await daylight.

In the height of the stormy weather Lauivaipapa decided to go ashore with two of his men to spy out the land. The three landed on the beach at the back of Yato and walked through the bush until they came to the fish pond of Yato. They tasted the water here, found it fresh, and so called out to each other, "Teia la, lelei te yua o tai o Te Tu" (The water of the sea of Te Tu is good). They walked along the beach of the lagoon. The chief Kaluea saw the strangers go past his house. He was frightened to see men higher than coconut trees. He called on his gods and then went to arouse his men. First he went to the houses of Matanga lineage, then to the houses of

539 173 Muliwutu, then to the houses of Yangalipule. At each of these houses he threw stones and called, but none would waken. At his own house none would waken. At last he came to the houses of Yamaunga. He threw stones, and two men came outside. These two were the brothers who had taken the child to Yayake. Kuluea said, "Why do you sleep so fast? I have seen something terrible and we are likely to be all killed." Meantime the three strangers had been seen going back to their canoe. The chief told the two men to stay on the reef near the canoe and to kill everything they saw in the water, even if it meant striking at drift rubbish.

The three Pukapukans consulted their gods and then went out to the reef. Kuluea dived into the water, swam to the canoe, and cut the anchor rope. The canoe quickly drifted away and soon drifted as far as Witi (Fiji?). When Luaivaipapa found out what had happened, he woke his sleeping men. "Pick up your paddles and give one mighty stroke," he said. The men obeyed, and with one stroke the canoe came back to Pukapuka. They dropped anchor again and went to sleep. Seeing them, the chief again cut the anchor rope. Three times he did this, three times the canoe drifted to Witi, three times with one paddle stroke the canoe came back to Pukapuka. After the third time Luaivaipapa watched carefully instead of sleeping; he saw the chief coming to the surface after his dive from the reef. He struck Kuluea with his foot, and so powerful was the blow that the chief was pushed to the bottom of the sea, where he fell on the ocean floor, alive but so crushed as to be helpless.

The god Kui saw the crushed chief. Kui gave Kuluea *lomilomi* treatments and brought him back to normal. The chief stood on a rock at the bottom of the ocean. With one mighty push he hurled himself to the surface with great speed. His head smashed into the bottom of the Tongalelevan canoe and split the canoe into fragments. Standing on one piece of the broken canoe, Kuluea knocked into the water the god house, the representatives of the gods inside the house, and all the people. The crew called out to their gods to save them, but the gods were helpless before the Pukapukan gods. Kuluea killed many of the men; the rest were killed by the two Pukapukan warriors waiting on the reef.

To revenge the death of their nephew, the two Pukapukan warriors later went to Yayake. They landed and killed all the people on the flat lands by the sea; then they went inland to the mountains and killed other people living there. They came to the copulating places (*yau*), and like their Tongan predecessors, they killed the people congregated in them. When they came to the village of Tuyiyauola the chief threw magic stones at them, but these failed to kill the Pukapukan men. When the chief discovered that the men were determined to kill him, he stamped his foot on the land, and the land was separated into two pieces, one of which was called Matiku, the other Rarotonga. The two Pukapukan warriors drifted away on the land called Matiku, and in the end came back to Pukapuka. Tuyiyauola remained on the part of the land called Rarotonga. This was the end of the Yayake people.

173 171 192 There are several interesting points in this story of the chief of Yayake. The word that the Tongalelevans used in praying to their gods when their canoe was smashed to pieces is remembered as "tulou". This word has no meaning in the Pukapukan dialect, but the same word is used in Samoa when entering a god house. All accounts of Yayake mention the places called *yau* where groups of people met together for copulation. The same institution functioned in Pukapuka, but it is said to have been introduced from Yayake. *Yau* is recognized as a foreign word for the name of these places, the native Pukapukan word being *ati*. It was impossible to get details or an interpretation of the five-platform house of Tuyiyauola. Other accounts tell of a place in Yayake called Te Maunga-wiwi, where two mountains

173 come together at their peaks to form a sort of arch or tunnel through which canoes may sail. On another occasion a warrior from Yayake named Te
192 Palo visited Pukapuka where he introduced the four-sided gaff sail that is known by his name.

171 It seems impossible to decide to what land, if any, of the Pacific the word Yayake refers. The cognate Samoan word *sasa'e* refers to the east, though the Pukapukan word for this direction is *ngake*. Informants today state that Yayake refers to Tahiti, though they admit that this has been suggested to them by visitors. The word Yayake may either mean a land to the east of Pukapuka or a land from which one sailed east to reach Pukapuka. The matter may be left until further accounts of canoe voyages away from Pukapuka have been given.

173 Some time after the defeat of the Tongalelevans a canoe came to Pukapuka from the Tokelau Islands:

773

> 539 The captain of the canoe was Te Amu; other members of the crew were Kavalele, Kualeu, Tapotoa, and a man whose name has been forgotten. All five were medicine men (*kou wowota*). This canoe landed at the channel on the west side of the atoll. The passage made by Te Mutu had been quite straight and therefore dangerous because the tidal currents ripped out through it strongly. The newcomers curved the channel and thereby slowed down the current to make a safer passage through the reef. The Tokelau men brought with them a dried medicinal plant (*lenga*) somewhat similar to a red ginger plant. It was hung from the roof of the house by a sennit string. The perfumed, thick, red oil that exuded from the plant was used by the Tokelau men as a principal ingredient in their medicines. This plant never grew in Pukapuka.
>
> Besides their skill as medicine men, the strangers possessed other, more magical powers: they could see across the ocean to the Tokelau Islands; they had the power of transporting their bodies to the reserves, leaving only their shadows behind on Wale and this they did when they wished to steal food from the reserves without allowing anyone to know that they had committed theft. Little is known of their stay on Pukapuka. The men did not settle down or marry Pukapukan women. They left and went back to their home islands. There is a house site in Loto known as Kualeu and another [illegible] called Pupuya (Scent—of *lenga*), and by these two names their visit is remembered today.

CONTACT WITH NASSAU

173 In the time of Kuluea and Wue, seventh and eighth chiefs, close contact
773 was maintained between Pukapuka and the island of Nassau, 40 miles southeast. The Pukapukans believe that they own this island and give the following accounts:

> 539 Ngalewu was a Pukapukan man who was put in charge of Nassau by the god Mataliki. Hence the saying "Na tai o Ngalewu" applied to a fair wind and calm sea on the south and east sides of Wale, the implication being that Ngalewu controlled the wind and sea of this part of the atoll from his strategic position on Nassau. Tima was a warrior who came to Pukapuka from the land called Aitutaki. He sailed on to Nassau but Ngalewu saw him and chased him away. Tima came to the submerged reef that runs west from the atoll but Ngalewu chased him from this place also, so Tima went back to Aitutaki after giving his name to the reef, Te Toka-o-Tima. The name of Nassau at this time was Te Nuku-o-Ngalewu. Some people from Pukapuka

539 were settled on the island as a sort of permanent colony, while others went back and
forth between Wale and Nassau.

173 Contact between the two islands stopped at the time when the conflict between the
gods made sea travel dangerous, and the island gained the name Te Motu-ngaongao
(Deserted Island). Occasional fishing trips were made to Nassau up to the time of
white contact, though the permanent settlement died out.

Pukapukan laborers working on the coconut plantation at Nassau in
172 recent times have found stone adzes and pearl-shell breast ornaments, the
latter of authentic Pukapukan design, in an old grave uncovered by the
tidal wave in 1914. The people of Pukapuka hope that a long-deferred
sitting of the Land Court will hand them back control of Nassau.

One popular legend of the contact between Nassau and Pukapuka tells
173 of visits to Nassau for sports and fishing by a group of people calling
173 themselves Na Tini (The Many ?). It was Kuialaloa, one of this group,
who moved the rock from the reef channel on Nassau that the Pukapukan
canoes might make this channel in safety. Unfortunately, the gods placed
the rock back again after the canoes left, a fact which makes landing at
Nassau difficult to this day.

The following account gives details of a return trip from Nassau to Pukapuka, and of Kuialaloa and his father, Tautuna:

539 Kuialaloa, a man of great strength, had a fit of temper and refused to paddle the
canoe or help to navigate it. His father saw this and, realizing that his son might take
offense if he chided him, he asked his son-in-law, Toutuinga, to remonstrate with Kuia-
173 laloa privately and persuade him to paddle. Toutuinga did this, but Kuialaloa objected
to being considered lazy. He became more out of temper still and said, "Do you order me to paddle this canoe? I will show you how I do it then." Kuialaloa took his paddle, dipped it into the water, and with two powerful strokes sent the canoe surging forward with such violence that the outrigger was raised from the water and the canoe capsized. Tautuna was furious with his son's display. He called out, "You should not have done this. I am a priest, and you have broken the rule against capsizing the canoe of a priest. This will bring bad luck to me, and I will be punished by the gods for the sacrilege." Kuialaloa did not reply. The canoe was soon righted, bailed out, and the journey to Pukapuka made in safety.

Some time after, Tautuna was banished from Pukapuka for being a man of superhuman powers. He left his son behind him and sailed with his crew. When he was far from land, his god, Te Alongaoa, decided to punish him for the desecration of the canoe above-mentioned. Te Alongaoa did not plan to destroy the canoe, only to punish Tautuna mildly. The god therefore sent a small whirlwind to overthrow the canoe, tip Tautuna into the water, and make his stores so wet that the remainder of the voyage would be miserable. Tautuna and his men were in the water bailing the canoe, preparatory to climbing into it again, when the god Talitonganuku noticed them. Talitonganuku was at war with Te Alongaoa, whom he thought to injure by killing his priest. So Talitonganuku ordered his spirits to gather together the sharks round the canoe. The sharks came together and began to devour Tautuna and his men. Too late, Te Alongaoa saw this and rushed all his own fish up to fight off the sharks; but it was no use; all the crew were eaten. Te Alongaoa swore to punish the god Talitonganuku by killing the next adherent of this god he saw on the ocean. The spirits of the dead men returned to Pukapuka and told their relatives in a dream what had happened to them.

Kuialaloa was so fat when he died that after burial his body fat melted away with the heat of the ground and flowed underground from his grave into the lagoon and onto

539 the reef. The sea was covered with oil for many days and perfectly calm. The people
could not understand this, so they dug up the ground and, by following the oil seepage,
173 came to the grave of Kuialaloa, which they found still full of oil.

THE SEISMIC WAVE

173 Tradition states that directly preceding the seismic wave came a period
of license in which the people of the island, led by the woman Wanguna,
773 became blasphemous and gave themselves to sexual license in order that their
tricks and their violation of tapus, as the legend somewhat quaintly puts it,
183 would gain them fame in the future ("Wai ai latou tionga ma latou wakamatanga
ke *yi* o latou longo ki tupua").

The people broke the tapus on the reserve lands, desecrated the sacred religious
539 enclosures, and turned them to unsacred purposes (*lepu*). The institution of the copulation
group (*ati* or *yau*) was developed to a high degree of organization and the people
173 gave themselves over entirely to licentious living. Wanguna herself—ambitious, nymphomaniac,
and a sorceress—is reported to have been a woman of gigantic proportions.
A man who wished to have intercourse with her had to hollow out the ground that she
731 might lie reasonably level with the ground. The men she craved accommodated her for
a time, but soon became tired of her insatiable appetite. All left her but one man named Takalenga, but he too soon went, and when Wanguna saw that other women had lovers while she had none, her desire turned to anger against the people she had led astray. She prayed to the gods of her lineage, Te Atua Vaelua and Te Mangamanga, to punish the people, but the gods delayed their answer. Then one night, desecration reached a climax. The people came back from the reserves and in a wild spirit of recklessness they tore up the gravestones and leveled the stones of the religious structures. All the gods had to take notice of this new outrage and sent the wave to sweep away everything on the island—people, houses, and property. The people looked at the night: thunder was pounding, lightning was striking, the wind was blowing from all directions. Waters raged on the reefs, the sea was constantly rising, the tree tops were bending low. On the next day all the island was broken and everything destroyed. Wanguna and another woman named Tuki took refuge on hillocks in the talo beds of Uta, hillocks that are still called Te Motu-o-Wanguna and Te Motu-o-Tuki. These two women avoided being swept away, and when the anger of the waves was finished, the sea gentle and the reefs low, of the original population only these two women and fifteen men with remnants of their families survived. The names of some of these men are remembered: Te Moana, his son Te Ingoa, Te Longoke, Malowou, Te Woalu-unga-mamao, Matakoa, and Ulo, all of the Muliwutu lineage; Te Kula of Matanga lineage; four men of the Loto lineages of Tua and Yangatipule; and three men of the three Yato lineages. From this little group of people the island was gradually repopulated.

173

PERIOD AFTER THE WAVE

731

REHABILITATION

168

Nothing is known about the time of Te Kula, ninth chief, though it
261 was presumably one of great hardship for the survivors of the wave. The
621 time of Maina, tenth chief, is reckoned to have been a peaceful one (*e vaia
wakamoemoe*). Both he and his executive officer (*wolu*), a man named Te
166 Kale, were concerned to husband food supplies and population so that one
would not outstrip the other. The population was still small. Maina decreed

173 that all the old villages should be temporarily deserted and that all the people
should come to live together for a time in the one village of Loto. Maina
731 decreed also that no man should take the life of another, whatever the provo-
cation; that none should live apart from the rest of the people lest he seek
168 to plot against the others and try by stealth to acquire more food than the
rest. By concentrating the people in one village until the population greatly
261 increased, Maina thought all schemes of revolt or killing would be easily
621 detected. For a time Kieilu, a great-grandson of Maina and a man of great
strength, served as Maina's executive agent and saw that his orders were all
166 obeyed.

Maina foresaw the time when the people would want to go back to their own village sites again, and he thought it best that boundaries should be fixed against this time rather than be left to possible brawling and inter-village fighting with the victory going to the best fighters and not necessarily according to the needs of the population. Hence the stick wrestling contests (*tutukianga*) that fixed village boundaries as well as ownership of the reserves were held at this time (p. 33). But as long as the people were grouped in the one village, they pooled their food resources.

[244] The village reserves were for the time controlled by the supreme chief of
the island. Maina decreed that there should be rotation of use between the reserve talo beds and privately-owned (lineage) talo beds. This rotation was ensured by placing a prohibition (*laui*) of the chief upon the beds not in use. He had the people dig new talo pits and plant many nuts. Maina also put special controls on fishing, closing some parts of the reef and sea, leaving other parts open.

THE LAW OF PULE PAE

173 Tuliayanga, who succeeded his father Maina, carried on the plan of hav-
ing the people live in one village and use all the reserves as a common food
731 supply. It is evident that the population was increasing more rapidly than
the available food and that much stealing was going on, because Tuliayanga
685 had built round the reserve of Uta a high stone wall with but two gates, and
stationed a strong guard to control the reserve which he made tapu (*wakaya*).
674 As this did not stop the stealing by the strong which consequently penalized
the weak, Tuliayanga called a meeting of the men of the island to discuss whether people caught stealing should be put to death. This meeting to consider the law of *pule pae* (the guard kills) was heated, and because no clear decision could be reached, the matter was submitted to the executive officer, Te Tau, to make a final decision for all the people. Te Tau was in favor of *pule pae*, which became the law of the land.

539 Three days afterwards the two daughters of Te Tau visited the reserve by stealth
173 and were caught by the Loto guard. The guard detained the girls and sent word to Te

539 Tau, asking him what was his favor. Te Tau was thunderstruck (*to te palo*) when he
heard the news. He replied that nothing was to be done and the girls freed from cus-
tody. Two sons of the chief, however, had previously strayed to the reserve and been
173 killed by the guard. Tuliayanga heard that Te Tau had saved his two daughters after his own two sons had been killed. He rushed to the house of Te Tau and said, "You killed my two boys, now you wish to save your two girls", implying only too plainly that Te Tau, who was instrumental in passing the law, had no right to defy it. Tuliayanga turned to the guard and called out, "Yelu!" (Comb!), meaning that the hair of the girls was to be combed forward so as to expose their necks. This done, the strangling cord was passed over their necks and the girls were strangled to death before their father. Their bodies were buried in the cemetery, not thrown into the sea as were the bodies of other thieves.

Two men, Tuiva and Kupolu, were successful in defying the blockades of the guard:

Tuiva, a warrior, strong and unafraid, was married to a daughter or granddaughter of Tuliayanga. He would go to the reserve at night, climb a tree, and get nuts. When the guard heard the noise and came to investigate, Tuiva threw down immature nuts so that they landed some distance away from the tree. The guard's attention would be diverted by this noise and, while they were combing the ground, Tuiva came down from his tree and escaped from the reserve. This ruse succeeded several times. Though no one actually saw him in the reserve, the guard decided that only one man was strong and daring enough to go to the reserve so openly, and this was Tuiva.

On a later occasion, when Tuiva was in the reserve, the guard refused to budge from the tree where Tuiva was hiding, even though they heard noises elsewhere. Each guard was armed with a stick. Tuiva resorted to another ruse: he pulled off two coconut midribs and carried them halfway down the trunk of the tree, where he hurled them to the ground with such force that the guard thought it was a body that had fallen. The guard rushed to the midribs and hurled their sticks at it. By the time they discovered that Tuiva was not buried under the leaves, he had again escaped. He was recognized, however, and the guard hurried after him. Tuiva reached home and told his wife about the mishap, saying he would sell his life dearly if the guard tried to arrest him.

The guard went to Tuliayanga and reported that his son-in-law had been stealing. Tuliayanga's daughter also appeared to plead for the life of her husband, saying she would substitute for him if the guard decided to strangle him. Tuliayanga was touched by the appeal of his favorite daughter and was also somewhat afraid of the powers and strength of Tuiva, knowing that if the guard went to get him, much blood would be shed on the island. Tuliayanga therefore ordered the guard to allow Tuiva to go free.

At about the same time another daring warrior, Kupolu, would go to the reserve and walk out before the eyes of the guard carrying bunches of nuts in his arms. If any
of the guard tried to intercept him, Kupolu put down his nuts and openly engaged the
[685] guard in a struggle, almost always succeeding in throwing many of them into the talo
swamps before the others scattered. This he did so often that the people said, "Why kill the weak people for trying to get food when the strong warriors like Tuiva and Kupolu can get food from the reserves and none can stop them?" This seemed reasonable to so many people, Tuliayanga included, that the chief abrogated the law of *pule pae*.

CIVIL WAR

173 Though the law of *pule pae* was abrogated, the reserves were still com-
166 mon property and the people were living in Loto. Some were of the opin-
664 ion that it was time to go back to the old three villages with village control
of the reserves. To decide this question, Tuliayanga called a meeting of
621

173 the sub-chiefs and men of the island at the place Matano in old Yato village.
166 From the accounts it seems that many were in favor of no change, and the
669 matter might have been so decided but for the action of a group of Ngake
621 men, strongly opposed to continuing the emergency system. What happened
at the meeting is vividly told in the following translation of an account
recorded by Talainga.

THE FIGHT IN WALETOA

539 There was a meeting of the chief and the big influential men, and all the men of
173 this island, all together. This was their discussion: they were going to continue the
669 island as one, make it into one village. In the time of Tuliayanga this discussion was
held.

The men all went to talk in Matano. They agreed to the talk. There were eight men of Ngake who did not want to go to the meeting: there were two chiefs, Wekao of Matanga and Tawaia of Muliwutu, and in addition Titoko, Yeutaka, Aveave, Kaveu, Takatakai, Taonge. They did not agree that the island should be made into one. They wanted to live in the villages in which we now live.

The men waited for that group to come. The hanging of the net of Te Laupapa at the shore of Waletoa was finished by the many men. It was a net to make peaceful the spirits of men, so that ideas in disagreement with the decision would not arise. All the men waited for the group of eight who were missing to come. The men spoke of the reason that group did not come. The many men watched from Matano. There was something becoming visible on Waletoa. The many men said that there indeed they were leaping to the shore of Waletoa. The group of eight looked, the net of Te Laupapa, the god of Muliwutu, was stretched there. Titoko, a Muliwutu man, ran forth. He tore the net. The men at Matano saw the peace net of Te Laupapa[17] torn by the group.

One group of men said, "Don't do anything, leave it like that, so that the angers may only rage, lest people go over to their side." They looked at an old man who was coming down from Waula, going to the meeting. Moene was the name of the man; he was a chief of Matanga. When he looked at Waletoa, at the net of Te Laupapa torn by the group of eight, Moene became angry and insulted the group. This was his insult: "Having eaten menstrual pads, they spoil the island; they have torn the peace net of Te Laupapa." Moving over to the side, he picked up a sinker stone, threw it at the group.

When the many men gathered at Matano saw, one group of men objected: "Wai! who is the bold fellow? That is the god-piercer, the trouble-maker." They saw Titoko who was jumping over. Titoko hit him in the back of the head. Moene fell down. He died.

When the men saw that Moene had fallen down, they rushed off with the calling of the mouths, "The trouble-maker." The stone (island) was definitely boiling with civil war.

The many men fetched weapons, ran back. The group of eight were feinting on the meeting place of Waletoa. They threw at each other with the weapons. Indeed the many men were quite distracted. Of the eight, no man of theirs was to die. Frightened was one group of the many men, out of breath another. Another group climbed on top of the houses to hide. As to the eight, none of their men had to fear. They had all been

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578 [17] The "net" of Te Laupapa was no real net but consisted of a length of sennit from which
hung strips of *welo* bark. Whenever a meeting of people from the whole island was held, or when
626 a meeting of people of a lineage was held, this net was always taken from the god house of one of
the lineages and hung up close to the beach. It was a reminder to the people that the meeting was
to be peaceful and that violence would be punished by the god under whose protection the net was
778 placed. The tearing down of the net was a sign that conflict was so acute that it could be settled
only by violence. The man who tore down the net had not only to take his part in the fighting but
also had to face punishment by the god, as happened to Titoko in the fight at Waletoa.

173 539 669

> injured, but their god had made well the places where they were injured, hit by the many men.
>
> Tawaia, one of the eight, ran below the house. Lunananga heard from on top of the house, it was Tawaia's voice. Lunanga (*sic*) jumped from on top of the house, split Tawaia's head with his billet club, the head was cracked. Tawaia was a brother of Lunanga. This is the reason Lunanga hit Tawaia: Tawaia and the others had not told their plan to him and the other group of Ngake.
>
> Te Laupapa, the god of Tawaia and the others, turned there, folded together the split head of Tawaia, it was all right again. Tawaia ran on, chasing the men, when the splitting of Tawaia's head was over. The many men threw at each other, among themselves only. They did not turn to the group of eight, to strike with aim. Indeed, the blood was flowing red on top. Indeed, the group which had died was nearly lost in the blood from the people. Indeed also, the many men had become few in number, they were nearly all finished, there remained only a few. But of the group of eight, not one of their men was mortally injured.
>
> When the fighting was over, they lived other days thereafter. The armpit of Titoko became festered, from his tearing of the net of their god, Te Laupapa. The other seven were not affected. Deaths were theirs in fights in later times.
>
> The doings of this island, the ideas which mistakenly direct the takings (decisions) of the island, which are not correct, these bring misfortune. Thus the many men were finished off. But the group of eight had been right, had wanted to live according to the customs of the island from the origin of the island, the living in villages. Thus they had good luck; there was not mortally injured a single man of theirs. Finished is the story of the fight at Waletoa.

173 669 621 166 Other accounts of this incident say that the beach and sea ran red with the blood of the killed and injured. Old insults and injuries, long forgotten but now flaring up anew, added to the violence of the hostilities. Although the women hauled the injured men from the fighting ground, by the end of the day Waletoa was a place of shambles.

As a result of the fighting, Tuliayanga yielded to the pleas of his advisers and decreed that thenceforth all the people were to live in their old villages and that the reserves were again to be under village control. No doubt by this time the food supplies were again normal, and it must have irked some men to remain separated from their own village homes and to see the reserves, controlled by the villages from time immemorial, thrown open to all comers. It was a common consciousness that the time for repressive or stringent measures, necessary in the famine succeeding the great death, was now past, that was crystalized by the exploits of Tuiva and Kupolu and by the dramatic conflict at Waletoa leading to the restitution of normal living and economic conditions.

173 Tuliayanga was now an old man, but one more incident is reported from his reign. This was the arrival of four big double canoes from the land of Yiva:

> When the canoes were sighted off the point Te Auma, the chief and the people went to investigate. Tuliayanga had no heart to fight so he tore off a cluster of *ngayu* leaves and threw them in the air. As the leaves fell, he struck at them with his walking staff and so great was his power that not one leaf fell without being struck aside and dispersed. Then the chief said: "Let the canoes pass away as these leaves are dispersed.

173 I am an old man and can not fight any more." The power of the aging chief was such that the canoes were easily hurried away from Pukapuka. It is impossible to state to what Pacific island the name Yiva refers.

FURTHER BLOODSHED

173 The time of Alatakupu, twelfth chief, was one of much bloodshed and
petty violence. Alatakupu himself seems to have been rather a brutal char-
1643 acter, though whether his delight in instigating killings was due to blood lust
or mere deviltry is not known. Pukapukans today do not analyze what
661 must have been a complex character, but the chief's violent death is evidence
578 that those of his time considered him vicious. It would seem that during
his reign the class of old men, who had equal powers in the government of the island with the chief, was invaded by a younger group of men from the age grade next below, who set up a petty tyranny. Their food was provided by the efforts of the still younger group of adult men (*lopa*). Being of vigorous mind and having much time and energy on their hands, the old men apparently plotted how best they might lord it over the people of the island. In this they were undoubtedly supported by the chief, who seems privately to have encouraged the young men to rebel against the older group and then openly insisted that the older group of men punish the younger men for their insubordination. The story of the young men of Yato, with the final killing of a man named Malotini, illustrates the violence of the time:

> 173 The immediate cause of the trouble between the young men and the old men was
> food division. The fishing group of young men, the *tanganga*, brought back turtle and
> other fish for the old men to divide among all the people. The old men apparently ate
> 579 all the fish themselves and then made disparaging remarks about the quality of the
> fish provided by the young men. This went on for some time until the young men
> became so enraged that they took every opportunity grossly to insult their elders and
> 643 finally decided to defy what they considered the injustice of the old men's rule by going
> to the reserves to fish and get nuts for themselves. It says much for the undermining of constituted authority at this time that such an idea could have entered their minds, because it meant violation of both secular and supernormal sanctions. Alatakupu encouraged the young men to do this, but as soon as they had left Wale, he consulted the old men and urged them to put an end to the rebellious young men. The chief assisted the punitive expedition by requesting his goddess Taua to blind the young men so they would be an easy match for the old men. He also placed at the disposal of the old men the services of two of his strongest warriors, named Kaleva-motu and Te Vana. Various groups of men from the other villages joined the old men's party. As most of the men on the reserves were from Yato, men from other villages conceived this a good time to pay off old scores against their Yato rivals.
>
> The old men landed on Motu Kotawa. The Yato rebels fell easy victims to the larger group: all save Te Keli and Nuanua, who escaped back to Wale along the reef, and a third, older man named Malotini, who was away on a long fishing trip. The old men paddled back to Wale and commenced a search for the missing two men. They found Nuanua near the cemetery of his lineage. He was armed and called on his gods to protect him when he saw the armed group approach. The older men were intimidated by Nuanua's fierce bearing and hung back from the engagement, but some young men from Ngake, enraged beyond endurance by his taunts, rushed forward and finally killed him. Te Keli was similarly killed.

173 Meantime Malotini was seen coming back from his fishing. He suspected no trouble and was unarmed. He was caught by the old men and hustled off to his cemetery.
579 A grave was dug for him and he was stood near it. The old men refused him permission either to don his death malo and pearl-shell ornaments, even though his father was hurrying toward the place with them in his hands, or to embrace his parents
761 and his cousin-in-avoidance, all of which might have made death easier. They roughly pushed him into his grave and buried him alive. His family composed a lament over the death of the young man. It is a good example of the use of clipped metaphor and
533 allusive reference so characteristic of all Pukapukan chants. The parents and brothers of Malotini address both Malotini and the killers in the various phrases that make up the *aloa* dirge:

539 Moe ma te toto e,
Tatou tatangi ki motu e,
Na mauli kape i mata e, kape ma na vae.

Tino yaulefa, ye vava, yaele wua mai tai nei—

Tiaki te kakai matua, no latou na vaia,
E tengia kotou i to kotou tangata,
Wali wua mai ki a koe te potiki o te takanga
o te wai mulivaka,
Koa ngalo koe, e ule kaina i te pou tu,

To yiku tala wuwuli ko te matamatangi—

Na wakatelatoka ke lalo
Wakaruipoupou atu koe ki Mulivae.
E toku wuvale, e toku taina,
Aku wakaululu mai koe ko te wale atua.

Na patua ko loto o Talikai.

Xaunuiai koe pe Welei,
Ko ye tuu na waituinga o tangata o te ata
Yaaana.
Koa yau koe to tala na i te tala o Tiki na
patua.
Ko te vaka o Te Palo ya tele.
Tenei au e tunguungu wakamanava
Wakamailanga i te kainga ma te kau na to a
kotou ma te ulu lela kotou.
E oku taina, ke vave aku au pe Uyo.
Ke aku taki atu i na ngutu lalalala e
Malmim ake, mamoa.
Koa tuku mo te winangalo e kai tangata?

Sleep, bleeding,
We cry out to the island,
The soul buried to the eyes, buried also the
feet.
Gentle body, never fussing, who simply walked
along the beach here—
The old people waited, it was their time,
You old men cry for your man,
They turn to you the youngest of the friends
of all the mature men,
You are lost, you whose penis I want to eat,
you of the main post in the god house,
Your barbed tail (?), turn to the direction of
the winds—
You journeyed south
They forced you over to Mulivae cemetery.
Oh, my vaginal secretions, oh, my brother,
My thoughts are filled with you in your god
house.
They killed you in the middle of the place
Talikai.
You smelled like Welei.[28]
They don't punish the wrongdoers (?) of the
people of the Samoas.
Your story comes in (follows) the story of
Tiki who was killed.
The canoe of Te Palo sailed swiftly.[29]
Here I am wailing, sighing,
Make known the lineage and the group which
killed you and your happy group.
O my brother, if only I were strong as Uyo,[30]
So that I might beat those insulting mouths
So hard that they become unconscious.
Your desire (O old men), to kill people has
subsided, has it not?

173 It seems that the killing of the young men of Yato was not an isolated event but that several of these apparently senseless killings occurred at different times—so that the
579 people of Wale began to fear that soon all the young men would be killed off. One time when Alatakupu and a few of his friends went to Motu Ko for a few days' fishing,
645 the people of Wale got together and decided to end Alatakupu's reign. They prayed for the assistance of Taua and then hurried over to Ko before their resolution should fail. They landed on the islet and butchered all the old men they could find. They came
669 across two warriors of Manihiki blood, bodyguards of Alatakupu, named Tualangi and Pailoa. These two men prayed to their Manihiki gods to protect them when they saw the war party coming. But they were captured. A piece of sennit was twisted about their necks and pulled tight to strangle them. Twice the sennit broke; but the third time the protection of the Manihiki gods deserted them. At this moment Alatakupu rushed on the scene. His eyesockets were always big, but now in his rage at finding his people in revolt against his rule his eyes were enormous and bloodshot; they blazed with anger like two burning embers in his face. Shouting the name of Taua to help him, Alatakupu rushed to strike down the men of Wale. They drew back in fear, but

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[28] A character in a popular story.

[29] A reference to the swift journeys of Te Palo between Nassau and Pukapuka. Secondary symbolism obscure.

[30] A man of gigantic stature and strength.

173 Alatakupu's adopted son called out: "Why are you afraid, O men of Wale? This man
has killed many of your sons and friends. Spare him and he will kill many more, includ-
579 ing you here for being rebels." Then he ran back up to Alatakupu and struck him in
the face with a club. His son seized the half-stunned chief by the neck and throat.
Friends from Wale renewed their courage. They placed a cord round the chief's neck
643 and forthwith strangled him to death. People were so angry with his body, even dead,
that they refused to allow it to be taken back to Wale for burial in the chief's ceme-
669 tery. The body was left on Motu Ko and buried, along with the bodies of some of the
old men, in a lone grave in the middle of the village of Te A.

When all had returned to Wale, the people in meeting decided to wipe out the stock of Alatakupu, root and branch. All his direct male relatives, without exception, including even suckling babes, were hunted out and strangled; their bodies thrown away.

There was thus left no male issue to succeed to the title. It was decided to wait until later years when a distant female relative of the main line might give birth to a male child before making another appointment to the position of chief. In the interregnum Tuiva was asked to act as regent for the island. Tuiva became the controlling head of the island until it was opportune to appoint, as the new chief, the boy Ikilua.

579 The two stories of Alatakupu illustrate very well a feature shared with
other accounts of Pukapukan fighting: the apparent blood lust that gripped
152 a Pukapukan crowd when it set out to kill. Little mercy was shown or expected; no courtesies were granted a dying person. Old animosities were revived and everyone not a friend became an enemy to be put out of the way without consideration. There appears to have been a boiling-over of repressed hatred, a collective running amok, which is hard to harmonize with the more usual gentle Pukapukan nature. It is likely that the killings resulted in a sort of emotional catharsis which, when finished, prepared the atoll group for a further period of peaceful and friendly village relations.

MANIHIKI IMMIGRANTS

167 The two Manihiki warriors mentioned in the story of the killing of
173 Alatakupu came to Pukapuka in a drift canoe from Manuyiki (Manihiki). The canoe was named Tialalunga, and in it were Tualangi and Pailoa and five women including Tata, wife of Tualangi, an elderly woman; Tokoua; Telua; and two other women who were drowned. This canoe is often referred to as Te Vaka-o-Tata (The Canoe-of-Tata).

These people set out from Lakawanga (Rakahanga) to sail to Manuyiki (Manihiki). Halfway across, a strong gale blew up; the canoe drifted and the course was lost. But for the protection of a large sail fish which swam along the windward side of the canoe, sheltering it from the worst of the seas, the canoe would have been swamped. This sail fish had been sent by the Manihiki gods after their adherents had prayed to them for protection. After many days at sea, during which the drifters kept themselves alive by eating raw fish (there was a big tuna fish in the canoe when it landed at Pukapuka), the canoe drifted to Pukapuka, coming up from the south and striking the reef outside Motu Kotawa. The people were too weak to make a good landing on this difficult reef, and coming over the reef the two women were washed

167 overboard and drowned. The survivors set out to explore the reserve and ate *pulaka*
tubers from the gardens. They were found a day or two later by men from Yato who
173 went to the reserve to catch birds. The strangers were taken to Wale, well cared for
and given to the several lineages to be looked after. Tata, Tualangi, and Pailoa were
609 adopted by i Tua; hence the two men were assisting Alatakupu on the visit to the
reserve. Telua was given to Yamaunga, and Tokoua to Muliwutu. The unmarried man
and women soon found Pukapukan mates. The two men were killed in the fight on Ko,
but Telua and Tokoua had children, and their descendants are mixed with the present
[563 Pukapukan population. (Note that the strangers had to be adopted by the paternal line-
ages before they could have status in Pukapukan society.)

597] That this drift voyage from Manihiki to Pukapuka was not exceptional
is shown from a report of Gill (12,p.29) who landed on Nassau in 1862 and found there remains of a settlement of people from Manihiki, six men and one woman, who had set out in 1859 or 1860 to sail to Rakahanga and had drifted to Nassau. The castaways lived on Nassau for two years before being returned to Manihiki by a passing vessel.

FIRST WHITE CONTACT

173 It was during the time of Alatakupu that the first white man's ship
609 (*payi*, a European boat with two masts) came to Pukapuka:

> The men of Pukapuka, organized on the *matakawa* basis (p. 374), went out in
> 177 canoes to meet the boat. The *yiliyili* coconut midrib was thrown at the strange vessel, and because it was not returned, this was taken as a sign of peace. Two men of the advance canoes scrambled up the high sides of the boat and onto the deck. These two were Tawaki, a warrior of Yalongo and Kaleva-motu, warrior of Yangalipule. Other canoes came up with mats and coconuts which were passed up to the boat to be exchanged for the white man's goods. The two reserve canoes likewise came up, and a brisk bartering was soon in progress.
>
> Profiting by the confusion on the deck, Tawaki cut away pieces of rope from the rigging and threw these into the canoe. Then he picked up wire, iron, nails, anything in fact that he could lay his hands on, and threw them overboard. Becoming more daring still, he walked up to the captain, who was smoking a pipe, and took the pipe from his mouth to inspect the strange object. The captain resented this freedom. He went
> [192] below and came up with a gun (called by the Pukapukans *ngawaliwali* because it resembles a detumescent penis). Tawaki had gone to the bow and was busily cutting off a piece of rope when the captain saw him again. He pointed his gun at Tawaki, but Tawaki did not stop. Then the captain fired and Tawaki dropped dead. The crew produced guns and drove the Pukapukans over the side. The body of Tawaki was lowered into a canoe, and the fleet sheered off from the strange vessel, which hoisted sail and slowly drew away from the island. The body of Tawaki was brought ashore amidst much weeping and buried in his own cemetery. The iron and ropes were divided among all the men of the island.

THE REGENCY

173 Tuiva's regency was in general a peaceful period. He realized that much
643 of the trouble in the time of Alatakupu was due to the fact that the old
men had found time hanging heavily on their hands and invented mischief
561 to make life more interesting. Tuiva therefore refused to admit to the old
men's age grade any person who was not "crawling with age".

173 It seems, however, that the comparative abundance following recovery from the effects of the seismic wave did not long continue, because the records
731 speak of another famine in Tuiva's period. It is likely that the population was again increasing faster than the food supply, necessitating more stringent
643 measures than usual to control the food that all might have a fair share in
578 it. Again it seems that Tuiva's assumption of the regency was not without opposition. This was centered in the person of another Ngake man, Watumoana, a priest of the god Tulikalo, who dwelt mainly in the god house attached to the sacred enclosure of this god. Watumoana was jealous of the power of Tuiva and wished to procure some of this power for himself, or alternately to become regent of the island in place of Tuiva. The bitterness between the two men, based on their rivalry, only waited for some incident to bring them to open conflict. The story of their conflict is a favorite one of the Pukapukans. The account recorded by Talainga deserves reproduction in full because of the wealth of detail bearing on every aspect of Pukapukan culture: λ

173 Tuiva was a child of Taonge, one of the eight of Ngake. Matanga was his lineage. This was in the time after the law of *pule pae*. It was a period without a chief. Tuliayanga was dead.
539 Takitini was a Loto man of the Tua lineage. He had been ordered by Tuiva to guard the point of Utupoa against the group who went out along the Ngake reef and who might be up to mischief returning from Ko. It was a time of famine. The island had not yet developed well. The men of the island were few in number; they had been finished off in the *pule pae*.

The children of Tuiva went to grope for fish along the reef. Takitini watched them coming from the reef. Takitini ran forth, snapped his fingers on the tops of their heads, chased them so that they would go home. Takitini said disapprovingly, "The eyes of the thieves." The children went, told Tuiva. Tuiva did not listen. Takitini was his brother. Besides, it was he who had placed him (Takitini) to protect the point at Utupoa. These were only the words of children.

Arrived at another day, Tuiva again chased his children, saying to them, "Why do you stay doing nothing? What about us, we are hungry. Why do you not go to fetch some food for us?" The children went again to the Ngake reef. They were seen again by Takitini. Takitini again went forth. He spanked them, spearing them in the ribs with his stick. He didn't spear them really; he merely frightened them so they would not go again. The children complained again to Tuiva, "We have been whipped by Takitini; he speared us in our ribs with his weapon." Tuiva again did not listen to the telling of the children. He thought again as he had thought before.

Another day still came. He chased his children, "Why do you only sit around making yourselves hungry? Why have you not gone to get food for us?" The children refused, "We certainly will not go. Takitini spoils our skins." Tuiva objected, "Why should Takitini hurt you for no reason? I guess he was only frightening you." His children disagreed, "No, indeed, he really whips us, breaks us to pieces."

Another day came. The children went out. Takitini watched; it was clear that they were going to the reef, going on to Ko. Takitini ran to the children. He asked them, "Where are you going? You rascals, the eyes of thieves." The children protested to Takitini, "Not at all, Tuiva sent us to get something for us." Takitini answered, "What is Tuiva doing? The reserve, according to him, belongs to you, to be eaten only by you. You go back. Don't you be stubborn. I shall whip you to pieces." Takitini snapped his fingers on the backs of their heads, sent them to return home.

λ. [See category 116, pp. 395-399 -- analyst.]

They invented their strange trick. They came, talking as they walked. They arrived at Te Walatapepe. One of the children among them suggested, "You make a fake, O Wakitula (the oldest); you are the one Tuiva favors. Pretend to have broken your arms and your legs; when we reach the place where Tuiva is, you cry out, pretend to be in great pain." Finished the discussion, they wrapped the arms and legs and body of Wakitula in the "bark" of the *ruvai* creeper, so that it would seem that these were parts hit by Takitini with his weapon, so that Tuiva would go to kill Takitini. Finished wrapping up Wakitula, they carried him. When they drew near to the place where Tuiva was staying, Wakitula cried, raising his voice high, "Awei, my arm is broken, and my side is pierced, and my leg broken. How it hurts! You carry me carefully, don't shake."

When Tuiva heard, he recognized that this was the voice of Wakitula. He looked out with both his eyes, the hand was hanging, the arms and legs were wrapped up. Tuiva became stiff with shock. He got up, seized his weapon and his spear. He did not question the children. Tuiva thought Takitini had struck him, from the reports of the children on the other days. The children only said to Tuiva, who was running with the weapon, "Your reason for sending us was not this." Tuiva ran on. Takitini was staying in the space between Utupoa and the Motu of Te Tali. Takitini looked at Tuiva, who was running with the spear. Takitini did not know the reason Tuiva ran there. But indeed it was because of the deceitful trick of the children, which they had played on Tuiva. Takitini watched the spear of Tuiva shooting towards him from above him. Takitini warded off the blow with his stick. The hurling of Tuiva was mistaken. Takitini was a skillful person. Takitini ran away.

Tuiva chased him through the *ngayu* bushes of the place Te Kalele. Takitini climbed on top of the *ngayu*, came down in another place. He was speared by Tuiva from behind with his spear, tight in the side of the back. Takitini seized the spear, pulled it out, threw it at Tuiva. Takitini ran to Watumoana, who stayed in Te Newu.[illegible] He crawled up to the front of his body. Tuiva ran there, flourished his weapon, he was going to hurl it from above. Watumoana objected, "What's the matter? You do this for no reason? That's enough. You have come to me here. You are not showing me proper respect." Tuiva did not listen to Watumoana, "You get out of the way, just push aside, this man did not show respect for me and my children." Tuiva speared Takitini, hard. Takitini died. If only Takitini had turned to explain to Tuiva. I don't know, it is not known which was the man of the two of them who would get the worst of it, Takitini was a strong and skillful person. From his having killed Te Ki and Kaleva in Uta, his mind had been made dull. Then too Tuiva did not listen to the words of Watumoana. He had known that Takitini was strong, therefore Tuiva had taken revenge; he did not show respect.

Finished, Tuiva went back to his house, to his children; they were certainly all right; it was indeed only lies of theirs. Hence the saying, "The death-bringing lies of the children."

Finished the death of Takitini, Watumoana went to the crowd of Yato, they were going to kill Tuiva. Watumoana was a man of Matanga of the sub-lineage Angialulu. These are the names of the Yato group: Uikele, Vakaua, Vakauli, Puyaka, Te Kele, and Watumoana, a Ngake man. They talked in the evening. This was their talk, they were going to kill all the men of the island, so that they were finished; the women of Pukapuka would be for themselves. This was the further decision of theirs, they were going to make Tuiva the first, he was the strong man of the time. They were going to make the rest of the men last. Finished the discussion in the evening, they went to prepare, they girt on their malos, sharpened their weapons with *pala* jawbone knives, and did their other things.

Uikele went away to his and Matautu's house. Matautu was the wife of Uikele. He climbed up on the platform, prepared his things. Matautu was sleeping below. His knife fell on the breast of Matautu. Matautu asked, "What are you doing there?

[illegible] The name of the sacred enclosure of the god Tulikalo.

Aren't these nights for the people to sleep?" Uikele did not answer. Matautu was figuring it out in her mind, "What is the thing of this group?" Finished the doing of Uikele, he jumped down, went to the place where they were gathering. When Uikele moved outside, Matautu also went to the side of their house. This was what Matautu figured out, "Isn't this group going to kill the group of all the men?" Tuiva was a cousin-in-avoidance of hers. Besides, Katinga, the wife of Tuiva, was a blood-sister of hers.

Matautu went to Matala, where Tuiva lived at that time. She did not get right up to the house, she stood just at the side. She threw stones to the side of the house. Tuiva and Katinga were sleeping in the deep midnight sleep of the people. Tuiva was a person who slept wakefully, the sleep of the strong. Tuiva heard the stones rattling. He wakened Katinga, "Just you get up to see what are the things rattling there." Katinga stood up to look, "Nothing." Katinga came back inside their house. Katinga said it was nothing, "It's nothing probably." They listened again, rocks were being thrown. Tuiva said again, "There they are rattling again. You get up." Katinga got up again to look. Katinga again said to Tuiva it was nothing, "Why, there's nothing." Tuiva said, "Just walk out to the front."

As to the doing of Matautu, she was sheltering in the back in case Tuiva got up, because they were cousins-in-avoidance. Matautu looked, it was Katinga. She showed herself to her. Matautu said to Katinga, "Tell the group of all the men there, he is going to be killed by the group of Yato."

Katinga came, told Tuiva, "Why, you are going to be killed by the group of Yato." Tuiva listened, he did not delay. He got up, tore the net matting. He girt on his malo. He ran to his brother, Kilika. He went to Kilika, who was making pretty his voice (singing), he was lying chanting with his mates in the young men's house (*wale lopa*). Tuiva objected, "While you make happy the voice, your death is being planned. Why, we are going to be killed by the crowd of Yato."

Kilika listened to the speech of Tuiva. Kilika arose, told his companions to come carry their fighting sticks. His companions arose, girt on their malos. Tuiva said to one pair of them that they come with him to trap fish at night, so that they would have some food to go with their talo pudding made by Katinga in the night. They went to the small channels; they got one net full with the net of *taiva* and *vete* and some other fish. They came, brought them to Katinga, who baked them in the night.

They prepared their weapons. Their food cooked, they ate their food. The night was cut into two (half gone). It would soon be dawn. The group went to search for the Yato group.

The six of Yato: the preparing of their weapons was over. They went to tie the several stone representations of the gods with coconut leaves, so that their going-out would be lucky. They went to Te Mangamanga and Talitonganuku, and Taua, and Mataliki and the other gods. They also went to collect the weapons in the several weapon houses of the various lineages and the weapons in other places.

The preparation of their things over, they went to kill Tuiva first. They came along to the talo garden of Valua. They came on to the Motu-o-Kaikole. A man was sleeping there, Tuanunui was his name. They struck him dead. They came to the reserve at Matala, to Tuiva. The man they had killed came to life again, he was brought back to life by the gods. It was not right for him to die, he was a man of their side.

They came to the house of Tuiva. They broke into the house. They had finished arranging this plan in advance. When they reached the house of Tuiva, they climbed on top, speared, struck with the weapons from on top. They thought Tuiva was inside. Why, no indeed, he was gone. They looked for him. They said, "He will pay for this, without a doubt. Where has he gone? Come, let's search." They went, searched in Ngake for Kilika and his companions. They looked there, they were gone. They said, "They have gone too. Who told?"

They went to search for Tuiva and Kilika. They searched at the point of Ngake, searched on, they were missing. Then too Tuiva and Kilika were searching for them in Yato. They went to look at the several god houses. They went there. They finished tying up their coconut leaf. They tore down the coconut leaf of the eight. They had also not yet seen them. They encircled the bush in the search. Dawn was quickening.

Meanwhile the group of Yato had also thoroughly searched through Wale. They didn't meet the group during the night. Tuiva and Kilika reached the point in Ngake. The Yato group also arrived at Walepia. Still they hadn't been seen. Dawn was quickening. The skin of a man could be seen. They returned in their encircling search. Tuiva and Kilika returned to the shore of Paepae. The Yato group also came to the shore of Kailia. The crowd saw each other. Tuiva and Kilika saw from Paepae. They were seen by the Yato crowd from Kailia.

The crowds ran toward each other. Tuiva and Kilika ran to Wumalolo. Tuiva stamped, both feet were firm in the ground, the coral reached to the ankles. Kilika also stamped, firm. But he didn't stand well (his feet were not planted deep in the sand). The Yato crowd was approaching. They were aiming the spear and their *koko* (throwing weapons). Kilika said to Tuiva, "O Tuiva, my standing is not right. I shall be badly hurt. Is it bad if we two run to Te Wunui? Besides, we are fast-footed." Tuiva felt sorry for his brother, lest he be hurt dead. The two of the pair ran along Waula. One of their weapon carriers fell down. Yakilia was his name. He was speared from on top by the six of Yato. One of their own men, Uikele, warded off the blow with his stick. This was why he was saved by Uikele: Yakilia was a *tuanga tau* of his (a person whose village membership Uikele sponsored). Tuiva and Kilika arrived at Te Wunui. Kilika stamped, firm. Tuiva also stamped, it was not right. The talo bed was soft.

Tuiva had earlier informed Kilika that when he saw Puyaka he was not to hit him, for he was a man who understood the ancient stories and the various fishing signs, and the island genealogies and other things. That was the reason the Yato group was not finished off. This was the other: if the two of them had stayed planted in the place first stamped down by Tuiva, I guess it would have been only the wink of an eye for the (Yato) crowd to be completely finished. Because they took the fight to Wunui, therefore others lived.

The group of Yato arrived there. They hurled at each other with weapons. Tuiva threw first at Watumoana, who was their strength; he died. Puyaka, Vakaua, Te Kele were Kilika's. Watumoana, Uikele, Vakauli were Tuiva's. They threw at each other with weapons. When Tuiva looked at the weapon of Kilika, he noticed that it was turned on its side. Tuiva said to Kilika, "Why, I guess your weapon is tilting sideways, turn it straight." The weapon of Kilika was straightened. Tuiva ran for Vakauli, he died. The dead were two in number.

Tuiva had not seen the flying-up of the spear of Uikele. He guarded himself, he was speared in the groins. He struck his club straight at the end of the spear to deflect it, but unsuccessfully. The point was broken off inside the groin of Tuiva. Tuiva was in great pain. It made him fall, he lay with his stomach on top of Vakauli, of his man who was dead. He bit on him. He only knew that he was going to die. There was Vakaua, he was standing turned toward Tuiva. He was going to hit with his club. The thing was that Tuiva was shielded by the women who crowded on top of Tuiva. Therefore the bad thrusts of Vakaua. Kilika, on the other hand, had washed his forehead, which had been injured, in the pool at Taumalanga, bandaged it with *welo* bark. The voice of Tuiva shouted out to Kilika, "Kilika, oh, I am indeed dying." Kilika jumped over, Vakaua was feinting over Tuiva. Kilika pierced him in the heel; he fell down on the base of his skull. Vakaua died. The dead were three in number.

Meanwhile Uikele had stayed off to the side. The other three ran up: Uikele, Te Kele, and Puyaka. They went to bury themselves alive. They buried their elders who had died first. Meanwhile Tuiva and Kilika were taken by the women and their weapon bearers to take care of their injured parts so that they would be all right. They were all right. They went to look for the group who lived. When they went there, they were already finished burying themselves.

173 Tuiva informed the whole island, "Listen you to me, O the island. Kilika shall
have charge of the back of the island, while I stay in the central island and the point of
539 the island to protect it, so that no bad ideas grow." The people were to increase; the
number of the men reached in the time of Tuiva to a thousand and one hundred. He
also made as his old men's group, men crawling with age; they were old men. Thus
it has come down to the time of light now; no other fight has arisen.

643 Obviously Tuiva was a hot-headed man, led astray by his excessive feelings
for his children. Where their welfare was concerned he had no mercy
129 on his brother. He was undoubtedly at fault in violating the tapu of the
sacred enclosure, where Takitini had taken refuge, and Watumoana was
593 quick to take the excuse to alarm men from Yato in an attempt to wipe out
Tuiva and his supporters, and incidentally to secure the women of the island
602 for themselves—a characteristic Pukapukan touch. However, kinship ties
579 cut across ties based on village groupings. Tuiva was informed in advance
of the plot against him and managed, with the aid of his supporters, to
defeat and kill the Yato men. Those not killed in the fight committed suicide
[762] by having their relatives bury them alive, a not infrequently mentioned
method of self-destruction.

FURTHER WHITE CONTACT

173 No further incidents are remembered of the regency of Tuiva. With
the accession of Ikilua, the main chiefly line was resumed once more, coming
484 down to the present day. Two voyages from Pukapuka to Samoa were made.
Two further visits of European ships immediately before the coming of the
177 missionaries are remembered. One was the visit of the Peruvian slave raiders
about 1862 or 1863. The other was the visit of a white man's ship
about 1850. It was named by the Pukapukans Te Vaka-o-lalangi.

When the ship was sighted, the canoes approached it, and after the coconut midrib
173 *yiliyili* was kept by those aboard the vessel, the people went aboard to exchange goods.
Each lineage tried to get as many European goods as possible in order to increase its
177 prestige. Among the things obtained from this boat were ropes and iron objects, clothes
(first called *kili langi* or *la kupenga*), and black tobacco leaf which they named *tutao*
[554] because it resembled the blackened oven covers removed from the native oven after the
food is cooked.

One man, Kautoki of Muliwutu, saw an animal which he thought was a large rat, but which was a dog belonging to the captain of the vessel. Profiting by a diversion of interest and finding the dog opposite a swinging scupper, Kautoki pushed it through the scupper; it fell into his canoe moored beneath. The people in the canoe hid it under some mats. Kautoki jumped into the canoe and it sheered away. The captain missed his dog and, thinking it was in one of the canoes, picked up a gun and fired at them. At this all the people tumbled into their canoes and pushed away from the boat. One man, Yalewalu, was left on the boat. He jumped overboard but was hit by shot and wounded. He swam to a canoe and was hauled in. All the canoes began to paddle frantically to the reef, but still the boat's crew continued to fire on them. The canoe crews prayed to their gods to protect them, but one man, Malo by name, was killed by a shot, for he had broken a tapu and was therefore not protected by his god as were the others. The shots splaying up the water were likened by the people to shoals of

173 fish scattering through the sea. When Malo was killed, a paddle was flashed in his
canoe as a sign to the people crowded on the beach that misfortune had overtaken the
177 canoes. The people then came out to the reef, and when the canoes had maneuvered
through the landing channel, death chants were started and the body carried ashore.

The dog was looked on as a strange animal and created much interest. It was
[205] called *kiole* (rat) or *tupua* (animal) and became a sort of prestige symbol for Muliwutu
lineage. It was taken to the principal god house and sacred enclosure of the lineage,
554 given the best food that the island produced, and ornamented with leaves and flowers.
The people of the lineage were never tired of boasting of their prowess and bravery in
stealing this animal from the white man's boat. The dog was honored thus until it died
of old age. Other lineages later tried to get strange objects as prestige symbols, but
none were so sensationally successful as this Muliwutu "rat".

VOYAGING

173 The following summary accounts of canoe voyages away from Pukapuka
are given for the light they throw on Pukapukan social customs and on
484 early contact with other islands of the Pacific. It is inevitable perhaps that
many of the places and islands named in these accounts can not be positively
identified. Some of the lands visited, such as Witi (Fiji), Tonga, Niue,
Yamoa (Samoa), Niutao, the Tokelau Islands, probably are the islands that
have these names today, but other islands, such as Yayake, Yiva, Yake,
must remain covered with the mists of obscurity. The accounts of these
voyages establish the fact that the Pukapukans in the heyday of their navigation
must have been as fearless sea rovers as their Polynesian cousins of
other islands. The knowledge of astronomy that remains today shows that
some of the remembered star courses were exceedingly accurate, and, given
courage and reasonable good luck, there was every likelihood that Pukapukan
sailors could and did reach distant islands.

The reasons for undertaking these sea voyages were: a desire for adventure,
desire to visit the lands and peoples that traditions told them lay
below the horizon in all directions; desire to bring back to Pukapuka useful
177 stones that could better be used for implements than the soft coral rocks
and shells of the native environment; desire to advance the prestige of one
554 paternal lineage as against the others. Further, some voyages were made
through necessity: through shame at some unpleasant experience, or through
167 the virtual exile that awaited any Pukapukan man whose powers, whether
829 physical or supernormal, made it seem to the populace that he might someday
be led to use these powers to advance his own private, selfish, and antisocial
interests against the interests of the group as a whole.

I think there is no reason to discredit the validity of these voyages simply
173 because incidents that smack to us of the supernormal or the impossible,
have crept into the accounts. Doubtless returning voyagers made the most
484 of their exploits, and tall stories have found credence with the stay-at-homes
in every age. But such stories are always woven into the context of actual
fact. It is probably impossible today to separate imaginary adventures from

1:Beaglehole and Beaglehole E-5 (1934-5) 1938 Pukapukar

123 real, but, after all allowance is made, the fact remains that the Pukapukans were daring voyagers, of which the following material is sufficient evidence.

p84 The first voyage of which record still remains is that of Tu (captain) and Longo, who went with a crew in a single outrigger canoe:

> These men sailed to the east to look for fresh lands and to increase the prestige of Ngake village. They took with them as stores, fish, cooked foods, talo and nuts, perhaps also fire. Fresh stores they procured from the islands visited. The first land they came to was Walalanga. They placed an offering to their god on this island, setting up a stone around which they tied a coconut leaf. After a short stay, they went on to Wakalava, a very large, long, mountainous land. Their star course to these two lands from Pukapuka was probably the Pleiades. They sailed farther east and came to Tongaleleva, then to Lua Maunga-wiwi, where two mountains, joined together at their tops, made a tunnel through which the canoe sailed. Their next landfall was Te Tawa-o-te-langi (Side-of-the-sky), where everything was beautiful, rocks, flowers, and trees particularly so. Here they sought to gather the beautiful things they saw about them and bring them back to Pukapuka to show the people. They filled up the canoe with all manner of things and put to sea, but before going far, the flowers had all wilted. They put back to land to gather more, but the flowers wilted again. A third time they gathered flowers, but again they turned to ugliness, so they sailed on without going back, visiting lands in every possible direction.
>
> On their return to Pukapuka, they divided among the people of Ngake all the basalt rocks they had acquired. These were used for adzes. A few plants found in their canoe were planted but they were too dead to take root. Tu and Longo also taught the people their knowledge of strange lands, the star courses to reach them, the names of the winds that blow on the Ngake side. By some the two stars, α and β Centauri, are thought to refer to these two men under their names of Na Matu-o-te-tokalua (Stars-of-the-pair).

The second voyage of early navigators was that of Tonu (captain) and Taea with a crew of Loto men. It is likely that this voyage represented a rival expedition, seeking to emulate or excel the voyage of the Ngake men.

> The voyage of Tonu and Taea was made in the season of easterly winds, from April to October. The voyagers visited the island called Te Motu-tuwua (identified by some as Panning Island) and Te Papakaleva (perhaps one of the Equatorial Islands), both islands frequently mentioned in the legends as having excellent fishing grounds near by. Another island visited was Pa-lakawanga, termed Pule-tutu in a second account because the people of this island burned on funeral pyres the bodies of their dead. At the place called Te Tawa-o-te-langi (Side-of-the-sky) the navigators tried to pick the flower called *tokolangi*, which is the same plant as that unsuccessfully gathered by the expedition of Tu and Longo. The voyagers came finally to Yayake where the attractiveness of the copulating places tempted them to settle for a time. Afraid, however, of the displeasure of their god, Mataliki, they hurried back to Pukapuka and told the story of their adventures.

[171] Two voyages which informants thought were next in order nicely mix the improbable with a characteristic Pukapukan view of human nature:

> Welei was a man rejected by women. His god took pity on him and made for Welei a coconut-leaflet canoe which quickly transported him to a land called Nukumautole (Island-of-many-vaginas) or Nuku-namutole (Island-smelling-of-vaginas), inhabited only by women. The women paid so much attention to Welei that he soon died, exhausted by their persistent attentions. Hence the saying in Pukapuka when a man

173 484 171 has difficulty in obtaining a woman's favor: "Wano koe ki Nuku-namutole" (Go you to Nuku-namutole). Children at play sometimes fashion little make-believe canoes of coconut leaflets which they call *waka o Welei* (canoes of Welei). The legend of a far-away island inhabited only by women recalls a similar legend reported from both Sikaiana and San Cristoval.

[626 558] The voyage of Yawau indicates the intense power of the weapon of ridicule in a small community and the manner in which its unsparing use can drive a man to the most desperate straits. Yawau was a priest of Yamaunga lineage. As the result of a fishing contest, the lineage was able to present Yawau with a large portion of *Ruvettus* fish. Yawau ate heartily of this fish, but later when chanting to his god in the god house, the people noticed that he had defecated on the priest's seat. Yawau became ashamed of his mishap, especially as the children were wont to tease him about it. He fitted out a canoe and sailed away, seeking for a land where the people had not heard of his shame. But the people of Tokelau, of Samoa, of Fiji, and of many other islands welcomed him with ridicule and it was only after reaching the land called Kapiti-te-wue that Yawau was able to find a haven where he could settle down and live forever.

173 177 [484] The journey of Wue, eighth chief of Pukapuka, made to the islands to the east and west of Pukapuka resulted in the introduction of many games with which the Pukapukans were not previously familiar. The account is a long one, telling of the adventures of Wue, his two sons, and his crew of Loto men at each of the islands visited.

By asserting that anything new he saw was a child's trick of no consequence in Pukapuka, Wue was able to steal swings from the people of Lakawanga, jackstone shells, the idea of coconut juggling, and kicking games from other islands, *tupe* discs from Wakalava. At only one island was Wue unsuccessful. At Motulau, the people played with a red feather which, when placed in the mouth turned the whole body a deep red color; when the feather was removed, the body turned brown again. In spite of all Wue's assumed indifference, people of Motulau valued the red feather too highly to allow him to take it and Wue could bring back to Pukapuka only a memory of the tantalizing feather. The remarks of Wue, the counter-remarks of the people of the islands he visited (all repeated the customary three times) and the tricks whereby Wue secured the things that interested him, are all considered highly amusing. The saying *Te Ngutu o Wue* (the mouth of Wue) is today applied to any one who exaggerates greatly or who obtains something from another by lies, beggary, simulation, or trickery.

173 484 The next voyages were those of Te Nana and Yi to Tonga, Niue, and Yayake. Informants thought they occurred in the reign of the chief Maina. But as this was after the seismic wave had more than decimated the population, it seems unlikely that there would have been enough energy left for long voyages of adventure and exploration. It is probable that these voyages belong to the era of Wue, being made perhaps after this explorer had returned to Pukapuka from one of his trips with his accounts of lands to the east and to the west.

173 Te Nana and Yi had each an outrigger canoe. Beyond the names mentioned in the narrative, other members of the crews are not remembered today. After leaving Pukapuka, the first landfall of the canoes was Te Motu-tuwua and Te Papakaleva. They fished in the lagoon in the middle of Te Motu-tuwua as all the other voyagers had done. They ate fish until they were satiated, which was soon, because they had no complement of talo. Then Te Vae-matua, one of Te Nana's crew, thought of the plan

of going to the land of Te Nuku-o-te-wakatapui, a small islet close to the shores of Yayake, an islet famous for its talo, where all the food complement desired could be easily procured. Yi did not want to go to Yayake, so Te Nana said he would go alone. Yi replied: "Agreed. You go to the windward islands, I will go to the leeward islands." So both canoes took in anchors, and one went one way, the other another way.

The story of Te Nana follows. Te Nana arrived at Te Nuku-o-te-wakatapui. He beached his canoe at a place called Avalau. There was plenty of talo in the talo beds, and the crew settled down to feed on the abundance. Te Nana had a passion for talo cooked as *likoliko*; this was prepared every day, 40 to 50 shells full for each man at each meal. As each man finished his shellful, he threw it behind his back, and soon there was a high mountain of shells growing up on the beach. The crew kept on eating talo while planting to renew the beds. They began at one end, and worked to the other end, and kept on until they had worked through all the talo beds on the islet five times.

About this time the people of Yayake suddenly realized that there were signs of life on the islet which was to them tapu. They looked across the sea and saw flocks of birds rising from the islet day after day. They began to query each other as to the reason for this, and at last decided to go and see what was disturbing the birds.

Te Palo, a Yayake warrior, volunteered to make a reconnaissance. He sailed his canoe to the islet, and coming near the beach, saw a group of people watching him. One man, Te Nana, he saw standing by a *tauyinu* tree. He was burnt black by exposure to sun, and was tremendous in size through his feeding on *likoliko*. Te Palo took him to be a strange monster of a man, and hurriedly sailed back to Yayake to report.

The people of Yayake decided to sail a great fleet of canoes to the islet to kill off the giant strangers. In the vanguard went the canoes of Te Palo, followed closely by the canoes of Yukui, another noted Yayake warrior. Behind sailed the general fleet of Yayake canoes; so many were there that they looked like a huge net flung on the ocean. The plan was for the two warriors to land first, and then while they engaged the strangers, the other canoes were to land their men.

Te Nana watched the canoes coming, and to test them out he decided to throw the challenging coconut midrib (*yiliyili*). He said to Te Vae-matua: "Stand in front, Te Vae-matua. Tie up your hair, gird on your malo. When the canoes are close, hurl at them this *kaleva* bird (midrib), and then we shall see whether the canoes are friendly or not." Te Vae-matua did as he was bid. Twice he hurled the *kaleva*, and twice it was taken and thrown back at him (a sign of hostility). A third time Te Nana ordered him to throw, but Te Vae-matua was frightened of the strange host, and suggested that another might care to have the honor of throwing the *kaleva*. But Te Nana said: "No, you are our mouth, go and throw again." Weeping, Te Vae-matua went forward and hurled the *kaleva* a third time. The two Yayake warriors were now so close to the beach that they jumped ashore and stabbed Te Vae-matua before he could retreat. They cut his legs, arms, and head from his trunk. Te Palo impaled the trunk on a spear, and advanced with it to meet Te Nana.

At the sight of his friend thus killed, Te Nana felt a great fierceness well up through his stomach. As the three came closer, Te Palo called to Yukui: "Don't look behind, don't watch me, watch only the place you plan to strike. It will be above (the head), while my place will be below (the stomach)". Te Nana had ready another *kaleva* which he formally threw at the two warriors. It was returned to him. Then the three men engaged. Yukui ran forward recklessly, with his guard lowered. Te Palo was more careful, realizing from the way Te Nana handled his weapons that he was a skilled warrior. Te Nana watched his chance, and soon cut Yukui to pieces, in the same way that Te Vae-matua had been killed. He impaled the body of Yukui on his spear, and then charged at Te Palo. Coming closer, with a mighty throw, he threw the body at Te Palo.

Te Palo, amazed at the strength displayed, rushed for his canoe, which was awaiting him on the reef. He set sail and hauled off to where the gathered Yayake canoes were awaiting the outcome of the champions' fight. Despite the orders of Te Palo, some of

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his crew had followed him ashore, and these were easily killed by Te Nana and his men. Te Palo waited in his canoe for the outcome of this shore battle, between Te Nana and his own crew. As the battle swayed to the leeward, Te Palo shouted in admiration of the skill of Te Nana: "Kanapa, kanapa, te ayeu lulu o te tawa mai lalo" (Glittering, brilliant, the school of *ayeu* fish of the war party from the west). And as the battle swayed back to the windward part of the beach he called out: "Kanapa, kanapa, te ayeu lulu o te tawa mai ngake" (. . . from the east). Then, realizing that his own men were getting badly beaten, he called to them to stop fighting. They made their way to a canoe, and Te Nana, finding he had won the fight, ceased fighting also. The people of Yayake sailed back to the main island. Te Nana saw however that they would come a second time and that a second time he might not be able to beat them, so he got ready his canoe and soon sailed off for Niue.

Leaving Te Nana, the story of Yi follows. When Yi sailed to the leeward, he finally made a landfall at Tonga-nui or Tonga-wolo. The Tongan people decided to test out the powers of the strangers and to this end arranged a contest to shift a pile of coconut husks from one place to another. Yi chose one of his crew, but his men refused to have any other champion than Yi himself, saying he was a man of power (*manamana*) and hence the one best fitted to represent them. Yi agreed. The Tongans chose their champion, a man named Yuliyuli. Both men stood before their piles of husks, and the contest started. Yuliyuli started fast at first, while Yi went slowly. All the people watched the contest while the men ran back and forth. Soon Yuliyuli got short-winded; Yi increased his speed and won the contest. The Tongan people killed and ate the loser, as was their custom.

A new trial was decided on to catch the strangers. This was a food-eating contest, in which the contestants were to be old, grey-headed men only. Yi picked out his warrior, Mayau, the oldest man in his crew. The Tongans chose their champion, and both men sat down before a huge pile of food, pigs and nuts. Mayau thought to outwit the Tongans. When he picked up a piece of food, he made a feint at eating, and then threw the food to some of his men behind him. This was noticed by the Tongans who became angry at the subterfuge, and stopped the contest, saying that Mayau was disgracing their way of playing the contest by giving the tapu food of the old men to commoners to eat.

Then they gave out the word that the strangers had given sufficient offence rightfully to be put to death. All were ordered to collect firewood and cooking stones, that the strangers might be killed, cooked, and eaten on the morrow. Yi and his men heard of the plan. They slept until early daylight. Then Yi roused and armed his men. He got some to prepare his canoe. The old man Mayau he sent to the Tongans. Armed with a huge club, he told the Tongans: "This club will be used to strike down you Tongans, if you stop our going. Yi is a powerful warrior, and I warn you this club will strike you like the head of an eel. Listen not with one ear, but with two ears." The people of Tonga were frightened by this bold threat, and while they were undecided what to do, Yi got his canoe launched, and all his men aboard.

He set sail for Niue, where he met Te Nana coming from Yayake. The two went ashore together, and settled down for a while before going to sea again.

After a long stay in Niue, they decided it was time to begin the voyage back to Pukapuka. They and their crews had been living an idle life on Niue, and when they went to look at their canoes, they found that both were imprisoned by the growth of young coconuts which people of Niue, either by design or through chance, had planted around the canoes. The two men began to tear up the coconut trees, in order to clear the canoes.

Now there was a young woman of Niue named Tauyaningaloa, who had become infatuated with Te Nana. Seeing that he was getting his canoe ready for a voyage, she said to Te Nana: "Take me with you back to Pukapuka and make me your wife." Te Nana would not agree. Yi had his canoe in the water, and Te Nana was ready to move his canoe to the sea. Then the girl returned, bringing with her a basket of prepared talo (*likoliko*), of which she knew Te Nana was excessively fond. She gave the food to Te Nana, pleading, "My sweetheart, take me with you to Pukapuka." But Te Nana replied in horror, "What, you wish me to take you, a woman, in my canoe, and disgrace (*lepu*) it before the eyes of my gods? If I did this, I would never arrive in Pukapuka; the gods would punish me for my horrible sin." [See p. 309.]

The girl was not to be turned aside, however, and to prevent Te Nana from leaving Niue, since he would not take her with him, she roused up the people of Niue, crying that the Pukapukans were stealing away, taking with them many things stolen from the people of Niue, and that Te Nana was also trying to steal her away from her people.

It was now nearly dark. The people of Niue came rushing to the beach, bringing with them weapons and torches of dry coconut leaves. They rushed at Te Nana and at his canoe, which was still on the beach. Te Nana picked up a coconut club, and beat off all the people attacking him. He rushed at them, drove them back, then tried to pull his canoe nearer the water. The Niue men rushed forward again. Some applied torches to the canoe, which, being very dry, blazed up. Te Nana saw his beloved canoe on fire, and in a frenzy of desperation, he threw down his club and tore at the people with his hands and his teeth. Then finding all was useless, he crept into his burning canoe.

The Niue people stood off, and Te Nana was burned to death with his canoe. Yi had all this time been standing off the beach in his own canoe. Those of Te Nana's crew not killed swam to it and were taken aboard. Yi saw the great crowd of Niue people and fearing that if he went to help all would be killed, he decided to save himself and his own canoe. He had, however, left on shore a valuable anchor line, which he wished to get. Thinking it would be madness to beach the canoe, he waited until the Niue men were all engaged with Te Nana, then he slipped into the sea and swam ashore with his club. He stole to where his anchor rope was lying. Some Niue men rushed at him, but he killed them with his club. He picked up the rope, wound it on his arm and started back for the beach, killing all who tried to stop him. He got to the beach safely and swam out to his canoe, which hoisted sail and returned to Pukapuka.

He told the people the story of his own voyage and of the voyage of Te Nana as related to him by Te Nana, and the fate of Te Nana and his canoe.

Yi lived on in Pukapuka to become a member of the older men's age group (*mulitaka*). When the people of Yato went to Motu Kotawa to catch booby birds, Yi went with them. Being still an active man, he elected to climb a tall *puka* tree. While he was waiting in the tree for the birds, a sudden squall blew up. The rain poured down, making the bark of the trees so slippery that none could climb down safely. The other men saw the squall coming and managed to get down safely. But Yi lost his head, for the spirit of Te Nana had entered into him. He did not climb down quickly, but called out to those on the ground: "I am going to fall. Gather together coconut leaves, pile them under the tree, that I may fall on something soft." The men complied, and cried to Yi to jump. But he was crazed by the spirit of Te Nana, and could not. Again the people cried to him, but he could not jump. A third time they called to him, but there was no reply. They saw him jump clear, but no body fell to earth. And so the people of Pukapuka believe that the spirit of Te Nana consumed Yi's body and soul in order to punish him for having deserted Te Nana when Te Nana was fighting against great odds in Niue. Had he rushed to the help of Te Nana on that occasion, all might have been well, and both might have returned safely to Pukapuka.

The Pukapukans remember a cycle of five stories about Te Palo, the Yayake warrior with whom Te Nana fought, of which one recounts his adventures with Te Nana in Yayake; three, his adventures killing man-eating demons (*kai tangata*), and one, his adventures in coming to Pukapuka.

The last account relates that Te Palo came to Nassau and from Nassau to Pukapuka on a voyage of woman-seeking (*e tele timotimo*). He was greatly impressed with the

173 amount of talo grown in the reserve of Uta, hence the saying that is remembered to this day: "Te konga nei, koa kaina te tuli ngauta i Yayake" (This place reminds me that the talo beds of Yayake are only big enough to be devoured by *tuli* birds). After a long visit in Pukapuka and several trips back and forth between Wale and Nassau, Te Palo sewed his sail for the return journey to Yayake with the arm bone of Malele, a demon that he had previously killed in Yayake. The goddess Taua was so annoyed at this use of human bone which was tapu on Pukapuka that she infected Te Palo's armpit with a tumor to remind him of this fact on his way home. This visit of Te Palo is chiefly remembered for his adventures with Pukapukan women, the speed of his sailing canoe, and the tapu against the use of human bone.

173 [502] 484 As a general rule voyages made by members of Matanga lineage with their sacred maid in the canoe were safe. (See p. 239.) An exception to this rule is stated by informants to have taken place during the time of the chief Maina. But it must have been later, because it is further stated that about 7 to 10 canoes, containing in all about 100 persons from Matanga, composed the expedition, and there could not have been so many people in Matanga so soon after the devastating seismic wave. The captain of the expedition is not known, but it is remembered that the sacred maid of Matanga, Nokaulava, accompanied the fleet of canoes to give power (*wakamana*) to the sailing.

The fleet sailed from Pukapuka to the southwest and came up to a land called Tonga. Owing to the exhaustion of the crews it was necessary to land. The canoes were beached, but the people of Tonga rushed down upon the exhausted men and killed them all. Nokaulava had been hidden in the hole in the bow cover (*puoyo*) of the chief canoe when trouble threatened. She was found after the fight by the chief of Tonga, a man called Tautonga. He was struck by her beauty, and in order to save her life he hastily thrust her back into her hiding place and announced casually to the people that all the strangers had been well killed. He remained close to the canoe, guarding the girl until nightfall, when he secretly took her from her hiding place, and, carrying her over his shoulder, ran swiftly inland to the top of a mountain peak. Here he found a cave shelter for her and food in the near-by valley. He became enamoured with her beauty, and stayed with her for many moons, the people knowing nothing of her hiding place. The girl reciprocated his love, and soon was pregnant. Later she bore him a son named Moko, who rapidly grew up to be a sturdy lad.

She taught the boy the language and stories of Pukapuka, and all the wisdom of her atoll home that she could recall. Now and then she would ask the boy: "Taku tama e, ka ni o mo mea la langa ake te imu o to taua kainga?" (My child, have you yet the strength to prepare the oven—revenge—for our lineage?). The boy would not reply, but he kept the words close to his stomach. His mother saw this and was satisfied.

As the boy grew up, he trained himself in his solitariness with all kinds of trials of strength, lifting heavy rocks and tree trunks. His father saw this and was pleased. His mother was happy too, because she knew full well that his strength boded ill for her enemies. The boy climbed the highest mountain ridges and again his parents were surprised at the endurance and hardness of his body.

One day his mother took the boy aside, and told him the tragic fate of his people at the hands of the Tongans who lived by the shore. The boy wished to go to the coast to see these people. His mother allowed him to slip away from the mountain at night and he went to the shore, leaping from house ridge to house ridge, so that none would see him walking. Another time he went to the shore by daylight, stole a canoe and a pig, and paddled out onto the lagoon close to the villages. Then holding aloft the pig, he called out, "Look, you people of Tonga, can you do this?", and with his naked hands

> 173 tore apart the pig. The people of Tonga were surprised at the young man, and asked, "Whence comes this young man?" Before they could launch a canoe to investigate, he slipped ashore and hid again in the mountains.
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> Some days later, the young man decided that the time had come for him to remember his mother's remarks and avenge his people. He gathered together many large rocks and boulders on the top of his mountain. Then he went down to the shore villages. He met a man close to one of the villages, wrestled with him, and tore him apart. He went into the villages and fought everyone he saw, tearing each apart with his hands. He did this until the breath came short in his body, and a formidable crowd of Tongans had gathered to fight him. He rushed inland, pursued by the Tongan warriors. He reached the top of his mountain far ahead of his enemies, and as they toiled up the slopes after him, he rolled down on them the boulders already prepared. His mother, excited at the slaughter of her enemies, urged him on to greater slaughter, but his father, appalled at the killing of his people, cried: "Stop, my son, the people of Tonga are now all finished." The boy finally desisted at the entreaties of his father.
>
> Soon after this, his mother, being sick for sight of her native land, went with her son back to Pukapuka, where she told her lineage of the revenge. Her heart was with her husband, however, so after a short stay in Pukapuka both mother and son returned to Tonga and were welcomed back by the chief. They moved to another island, where they settled. The mother's heart was now glad to live in Tonga, for her blood was revenged on the Tongan people.

173 Before Nolmaulava returned with her son to Pukapuka, an exploring expedition had set out from Pukapuka to search for the missing people of
167 Matanga. This was a fleet of canoes from Muliwutu, also with about 100 men as crew. With α and β Centauri as their guiding stars, the fleet sailed
484 to the southwest and finally reached Niue. They did not find the missing men of Matanga, but were apparently so well treated in Niue that most of them decided to stay there. A canoe came back from Niue to report the decision; nothing more was ever heard of the emigrants, and it is supposed that they settled down in Niue and intermarried with the people.

173 All the canoe voyages mentioned by informants were made to particular islands, except one which was meant to be an exploring expedition away from Pukapuka but which got no farther than within earshot of the land. This was a voyage projected by Tuliayanga when he was a young man and before he had succeeded to the chiefly title.

> The boy was filled with the lust to travel, his imagination excited by returned travelers' accounts of strange lands below the horizon. His father, Maina, feared for his safety at sea, and refused at first to let him go. Tuliayanga insisted, so his father was forced in the end to allow him to fit out a canoe. When the boy set off, Maina prayed to his god requesting that his son be not allowed to see land anywhere but be made to travel only in a circle that would bring him back to Pukapuka. Tuliayanga sailed a first time, but the morning brought him back to Pukapuka. He sailed a second time, but on the fourth morning he was again in sight of Pukapuka. A third time he set off, and after sailing for several days he knew he was near land because he saw birds flying and thought he heard voices. But he saw no land no matter which way he sailed his canoe. After being at sea for several months, he sighted three islands. He came up to them quickly, with joy in his heart, for these were surely the new lands he had hunted these several moons. But when he came close he found it was only the three islands of Pukapuka to which his god had returned him once more. Tuliayanga was so disgusted with the weighting of the gods against him that he gave up deep-sea voyaging forever.

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Another voyage occurring about this time was that of a man named Palakula and members of his family who sailed away from Pukapuka. Palakula had killed the son of the chief Tuliayanga in a brawl provoked by cruelties of the chief's son to Palakula's children. He chose banishment rather than local punishment. Nothing more was heard of Palakula after he left Pukapuka. It is presumed that he and his crew were all drowned at sea.

Two later voyages were voyages of necessity, not choice. They were made in conformity with the Pukapukan custom that all men of supernormal powers should leave the island forever lest their continued presence on the atoll lead to their acquiring abnormal power over the people of the island.

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Tuliayanga had three grandsons, all sons of his daughter, Kaipa. Their names were Nikau, Aliki, and Kieilu. Of Nikau, the oldest, no record is preserved, though it is known that he left Pukapuka. Aliki, the second son, early showed signs of precocious supernormal powers, so under the guise of a competition it was decided to test him. A group of men, all armed with sticks, the ends of which had been dipped in charcoal and water, surrounded Aliki and pretended to attack him. Aliki, also armed with a stick, defended himself against their blows; when the contest stopped, it was found that there was no trace of a black mark on his body. Then it was the turn of Aliki to dip his stick in charcoal. Again the men attacked him; when the contest paused a second time, it was found that each man had a black mark on his body, some on the ear, some on the hand, others on the leg, back or head. This was considered sufficient proof that Aliki had indeed supernormal powers, and he was ordered to leave Pukapuka.

Having fitted out his canoe, he sailed for many days to the west. His crew died of exposure, the sennit lashings of the canoe rotted, and the canoe fell to pieces just when he came in sight of land. He swam ashore and learned afterwards that the name of the island was Niutao (Ellice Islands). He feared the people of the island, so he hid by day and stole food by night. One morning before dawn, when he was hurrying back to his hiding place among the *ngayu* bushes by the shore, he met a young girl. She reported the encounter to her father, who watched for the stranger and after several attempts managed to catch him. The two men became friendly and when a tribal war later broke out on Niutao, Aliki rendered such signal service to the group of his protector that they were victorious. Aliki was adopted by the girl's father, married her, and lived on Niutao as a permanent settler. He taught the people of Niutao to wrestle and throw spears. This is why some believe that after the Pukapukans, the men of Niutao are the most skillful wrestlers and spear throwers in the Pacific.

Kieilu, the third grandson of Tuliayanga, was made cautious by the fate of his two brothers. Some time after they had left Pukapuka, Kieilu was challenged to a log-lifting contest by a man of Yamaunga, named Taluawa. Kieilu planned to be defeated in this contest, even though he could have won it easily. Kieilu lifted his log first, but no higher than his chest. Taluawa, careless of his strength, lifted the log with ease and held it above his head. The people saw this and feared his strength. They ordered him to fit his canoe and sail away to the west to find a new home. Taluawa asked his friend Kieilu to accompany him, but Kieilu replied that he was a land bird and had no liking for the sea. So Taluawa repaired his big double canoe and sailed away.

A few days after leaving Pukapuka, he ran into a heavy gale, with strong seas and winds, sent by the god of waterspouts and whirlwinds, Te Alongaoa, in order to destroy him and his fellow adherents of the god Talitonganuku. The two gods had been fighting each other, and Talitonganuku had sent a shark which destroyed Tautuma, a man of Te Alongaoa who had voyaged abroad. But Talitonganuku and his attendant spirits were on the watch, and when Te Alongaoa sent his agents to overwhelm the canoe of

173 Taluawa, the spirits caught hold of every cloud descending from the sky and shook it so hard that it fell to pieces. When the whirlwind came, Talitonganuku blew it away. When the rain came in squalls, Talitonganuku covered the canoe with his body and protected it from being filled and swamped. Then Talitonganuku said: "I have protected my men from every weapon of Te Alongaoa." But he had forgotten another weapon of Te Alongaoa, the sharks and fish of the sea, especially swordfish. While Talitonganuku and his spirits were fighting enemies of the air, Te Alongaoa sent his own spirits to gather all the fish and to send them round the canoe. They came to the canoe, and made the waves rough with their thrashing to and fro. The swordfish bored holes in the side of the canoe, and cut the lashing with his sword. Then Talitonganuku rushed to drive off the fish. This left the air unprotected, so Te Alongaoa gathered all the forces of the air for a final onslaught on the canoe. A tremendous storm came from every direction, and the canoe sank ever closer to the water. In spite of Talitonganuku's efforts, the swordfish cut the canoe to pieces, and speared each person on the canoe as he was thrown into the water; all were killed. Te Alongaoa was pleased that he had thus revenged his priest killed by Talitonganuku's shark.

The spirits of the dead returned to Pukapuka and told their living relatives in dreams what had befallen them. Thus is the story known today in Pukapuka. This was the last canoe that sailed from Pukapuka for many generations, because the people were afraid to venture on the ocean while the gods were fighting against each other, destroying all voyagers in their anger.

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For five or six generations after this time, Pukapukan sea voyages were less frequent. Two short voyages to Samoa made after the coming of the missionaries to Pukapuka are worthy of mention:

[558] Yipouli was a Yato man, affiliated with Loto village, who was caught stealing nuts from Motu Kotawa. He was fined 10 nuts by the guard, but was so ashamed of being labeled a thief wherever he went that he gathered together a few friends and refitted 5 his double canoe. One of the two canoes making the vessel was called Te Lava-yaunga, the other Yae-langi. The voyagers set out, sailing by the star Melemele (Antares). They reached Tutuila, and later went on to Upolu where they settled down. Yipouli often wished to return to Pukapuka, but the thought of his shame always prevented him. He died in Samoa.

A little later, in the time of Okotai, second Rarotongan missionary to Pukapuka, about 60 years ago, Okotai's son, Ue, who had lived with his father previously in Samoa, decided he would like to return there. He discussed the matter with Pukapukan young men, stressing the good times that awaited the travelers in Samoa and the surpassing beauty of the Samoan women. Ten young men decided to join Ue in the venture. Saying they wished to go on a fishing trip to the Tima reef, they borrowed a canoe from a Yato man. The name of the canoe was Te Punga-i-Witi, the name also of a large canoe in Yato village today belonging to the son of the owner of the borrowed canoe. The young men prepared the canoe with the minimum of publicity. They went to Motu Kotawa and stole a cargo of nuts. Then they set sail on a course that brought them to Tutuila. The sea on the reef where they made a landfall was not bad, but instead of searching for a reef passage they decided to wreck the canoe, jump into the water, and swim ashore. They were unaware that the sharks of Samoa, unlike those of Pukapukan waters, were man-eating sharks. Of the ten men that left the canoe nine were eaten by sharks. Only one man, Yolomili, brother of the present chief, Nawaui, managed to climb on a rock and make his way ashore when the tide went out. He was cared for by a Samoan family and stayed in Samoa till his death, too ashamed to return to Pukapuka. Opinion is that the death of the young men was punishment sent by the old gods, at the request of the owner of the canoe, for the stealing of the canoe and the violation of the tapu of the reserves.

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484 This disastrous voyage to Samoa is probably the last of the deep-sea voyages of the Pukapukans to foreign lands. Occasional fishing trips are still made to Tima reef, but there is no record in recent years of any deep-sea voyage with native canoes.

SUMMARY

A survey of the voyages recorded in the previous pages indicates that the majority were made to lands to the west of Pukapuka. The Tokelau Islands, Tonga, Niue, and Samoa were frequently visited. It is perhaps reasonable to assume that some of the other names mentioned refer to islands to the north of Pukapuka, the Equatorial Islands. The land of Yayake still remains a puzzle, not rendered more easily solvable by the reference to Rarotonga. As this land is identified by some as Tahiti, it may be instructive to discuss the possibility of canoe voyages between Pukapuka and Tahiti. I am indebted to Robert Dean Frisbie for the material on navigation in the following paragraphs:

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> The island of Raiatea may be used as a destination rather than Tahiti because it is closer to Pukapuka (940 miles) than is Tahiti (1080 miles), and it would be sighted by a canoe sailing direct from Pukapuka to Tahiti. The navigator's course to Raiatea from Pukapuka is 112° east southeast.
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> A canoe sailing from Pukapuka to Raiatea would require a light wind from northeast by north or farther north. No wind to the east of 32° would be serviceable because a native canoe at sea can not make good more than one point into the wind and if the wind blows at more than force 3 (Beaufort scale), the canoe can not make good a course closer than 90° to the wind. Winds from north of northeast blow in this part of the Pacific only during the hurricane season from November to March. At Pukapuka northerly winds are fairly steady and moderate, but to the eastward, these northerly winds give way to easterly winds. A wind shift to the north is generally followed by a gale from the northwest which a Polynesian canoe could not weather.
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> It would be practically impossible for a Pukapukan canoe to beat to Tahiti against a head wind. To do this, it could scarcely make more than 20 miles a day on a true course, and for this it would have to sail a little over 100 miles each day. A canoe beating towards Tahiti would be at sea for at least 47 days, changing the course continually as the wind shifted. If, at the end of this time, any island of the Society group was sighted, it would be due to singular luck and not design. No star course would be of value, for the canoe would be changing course continually. Even if a navigator knew by experience that a certain star at rising lies towards Tahiti, it would be impossible for him to shift his courses so that they would average one equal to the true star course.

All this does not discredit the fact that the early Pukapukan navigators could and did make long sea voyages with a fair or even a beam wind, short voyages also with a head wind if the wind was mild and the navigator was clever enough to keep track of his position. That the Pukapukans were well aware of the impossibility of long voyages against a head wind in the hurricane season is shown by the fact that when they sailed to Upolu from Pukapuka they had a fair wind; coming back to Pukapuka, they did not attempt to sail direct (against the wind), but sailed first to the Tokelau Islands, 502 waited there for the hurricane season, and, as is demonstrated by their star 487 course, then sailed back to Pukapuka with a beam wind.

The only possible way for a Pukapukan navigator to reach Tahiti from Pukapuka would be to make easting in short journeys from island to island, in high equatorial latitudes, during November or December, wait, say, at Tongareva, for a mild northerly wind, and then make more easting before the wind shifted back to west so that he was in a position to sail the rest of the way to Tahiti with a beam wind. Mr. Frisbie regards this as possible on paper but difficult in actual fact. A return voyage from Tahiti to Pukapuka would not be so difficult. It might take about 10 days or more under favorable conditions, though it might be relatively hard to make a landfall at Pukapuka.

Pukapukan traditions speak of several voyages to and from Yayake. In the light of the above-mentioned navigational difficulties and the fact that the Yayake people in their immigration to Pukapuka landed and settled on the southern side of Motu Ko, it is perhaps justifiable to assume that Yayake was not to the east of Pukapuka, but somewhere to the south or west. This would lead to the suggestion that Yayake lay in the direction of Tonga, and it is quite within the realm of possibility that this is the old Pukapukan name for an island there or for one of the Fijian islands.

MASTER IDEAS OF PUKAPUKAN CULTURE

181 The key to the patterns of social organization is to be found in a brief analysis of the master ideas or controlling motifs of Pukapukan culture. These are both extraverted and realistic. The realistic construct of the culture is evident in social patterns, in myth, story, chant, and in everyday life. Thus, when the Pukapukan has occasion to greet an old, sick woman, hobbling along the village road, he remarks: "Where are you going, lady, you with your sickly and crippled walk?" There is no felt need to gloss 181 over the situation and insinuate, as with us, that all is for the best and that 761 even a semi-invalid is walking better each day. Again, when one asks an old man, obviously soon about to die, to name his descent lineage, more often than not the question one puts is: "Where are they going to bury you, old man, when you die in a day or so?" No offence is ever taken at the apparent crudity of such questioning; the old man is fully cognizant of the fact of death and is able realistically to face it and joke about it. This is in line 181 with the general Pukapukan attitude toward death; it is one of extreme realism, not at all one of fear, though fear may come later when it is 522 suspected that spirits of the dead are malicious trouble makers. Again, Pukapukan humor concerns itself almost exclusively with either the functioning of physiological processes in other than the appropriate social situation,

[522] or with the exaggerated functioning of these processes in normal situations.

181 Realism reaches its full development in the realm of sex. The contents of chants and stories and the behavior of children are proof of this. One of the most difficult tasks of the resident agent in his capacity as school teacher is to check the lack of inhibition in the speech of children within school.

Cultural extraversion allows for great display of individual prowess in typical extraverted activities such as fishing, sports, games, and lovemaking. Economic patterns which necessitate group work for the good of the household or village act as a check, but this work is often competitive and places a premium on individual skill if the household or village is to triumph over competing groups. States of typical hysterical dissociation were formerly common among priests and medicine men when consulting lineage gods.

181 554 521 152 In general, little check is placed on individual prowess and a man is honored for displaying his abilities. In the reciting of chants that symbolize triumph over another village or grief felt for a departed member of the community, wild movements, loud weeping, and hysterical displays of emotion are common and proper. Good taste also permits conversation or oratory to be accompanied by vigorous body movements, gestures, and intense dramatization of climactic moments. People are noisy in conversation (unless prudence dictates the whisper); they enjoy loud laughter and shouting back and forth to each other. Children, too, when not subdued by elders or by the presence of white people, engage in noisy games, in which singing and excited movement are appropriate. There are of course a few individuals who do not conform to this pattern. But in the matter of deciding what is good taste, this characterization is not false to the cultural ideal.

181 885 517 The chief virtues for the man are those grouped around technical excellence at craft and other economic activities, and skill at lovemaking. Those for the woman parallel these: they are economic and craft virtues, virtues of physical excellence and bodily strength, and again, skill at lovemaking. It is to be noted that these activities are extraverted feeling activities. Along with them goes an appreciation of, and single-minded attention to, the cultivation of the senses. The culture is sensuous but not sensual. The chants are full of explicit reference to the beauty of the human body as tested by sight, smell, and feeling, to the love of flowers and plants, to the keen joy in the slightest beauty of the physical environment. This cultivation of
181 feeling, a cultivation which is hardy and vigorous and in no sense to be
831 equated with the pale vision of the esthete, reaches its highest development in the symbolisms of sexual intercourse. Around the sexual act itself has been constellated a naturalistic play activity and delight in associations derived from close study of nature that render the Pukapukan interest in this major fact of life one that is the reverse of the gross and sensual. The Pukapukan

181 is not interested in platonic love. It is extremely doubtful if it would be possible to explain to him just what such a concept involves.

831 For the Pukapukan all activities lead naturally to sex. Whatever the purpose of a chant, whether to glorify a fishing triumph, to grieve over a departed relative, to recite physical and individual skills, all come sooner or later to the fact of sex; and triumphs and skills are woven harmoniously into a context that stresses the greatest joys of Pukapukan life. It is just this cultural patterning that makes Pukapukan culture difficult for a European to comprehend, let alone to appreciate by an effort of feeling. It is this patterning also that makes all chants and stories difficult to translate. They belong to another world of action, feeling, and ideal, widely at variance with our own. But to appreciate this atoll culture is to enrich our knowledge of the wide gamut of characteristic configuration provided by the kaleidoscope of primitive societies.

CULTURAL AFFINITIES

181 A brief summary of the material presented in this report will indicate the main affinities of Pukapukan culture. It is important to stress the simplifications inevitably produced in Pukapuka by the limitations of an atoll environment. This is most noticeable in material culture (witness the absence of bark-cloth manufacture) but environmental influences also affect social organization. Absence of kava means the non-development of elaborate [461] kava ceremonial; limitations in food resources mean that much time must be spent by both men and women in procuring food. A consequent lack of leisure has not been conducive perhaps to the development of a leisure class of chiefs who could afford the luxury of supporting skilled artisans and craftsmen.

171 A cursory comparison of Pukapukan material culture with that of Polynesia as a whole indicates that Pukapuka shares largely in prominent elements common to both eastern and western Polynesia. Associations of Pukapukan material culture with elements found only in the west or only in the east are relatively small. A comparison with Handy's list (15) indicates that Pukapukan culture is preponderantly early Polynesian, and shares only secondarily in elements supposed to be characteristic of Handy's *arii* culture.

However, relationships with Samoa and other western islands are relatively close. Bonito fishing and the type bonito hook resemble Samoan patterns. Samoa has many fish traps and Pukapuka few, but Pukapuka has elaborated techniques of deep-sea and surface fishing with baited hooks that are foreign to Samoa. In hunting, the use of spring traps is common to Pukapuka and the west; in fowling, Pukapuka has the bird net, but not the decoy bird. The fowling line is shared with islands farther west than Samoa. Wet-land taro cultivation without irrigation is common to both

171 Pukapuka and Samoa. The double-pointed throwing weapon links Pukapuka to Funafuti; oval or round religious structures seem to have their nearest parallel with those of Niutao in the Ellice Islands. Unlike Samoa, Pukapuka lacks tattooing, the arched house, the use of house decorative lashings and the plank-flanged canoe, though the use of flanges on the dugout canoe may suggest Samoan influence.

In social organization, Pukapuka presents several features that seem more Melanesian than Polynesian. This is notable in the structure of the maternal moieties, and the importance of named maternal descent groups. The common western Polynesian custom of *vasu* or *fahu* is absent in Pukapuka. Though the Pukapukan kinship system is marginal to the west, there has been a specialization in the function of at least one western kinship category (the *mayakitanga*, sacred maid), and whereas brother-sister tapu is absent, the full weight of avoidance has fallen on those of opposite sex who are related as cross or parallel cousins. This strongly suggests a similar emphasis reported for the southeast and northwest Solomon Islands (Mala and Buka). Again, the elaboration of rank within kindred associated with the west, and the elaboration of rank within the social structure associated with Samoa and Tonga, together with a chiefly language, are all lacking in the simpler, more democratic structure of Pukapukan society.

The hierarchy of Pukapukan gods is hard to trace elsewhere. The named gods and their elaboration of function seem peculiar to Pukapuka. The absence of such gods as Tangaloa, Tane, Ru, and Rongo points to a break with the deistic systems of the rest of Polynesia. Certain correspondence between the Pukapukan conception of the Underworld and that formerly prevalent in Futuna may be noted, but it is significant that a common western name for the underworld, *pulotu* or its dialectical equivalent, is unknown in Pukapuka other than as a recently introduced word.

191 Linguistically, the dialect of Pukapuka and its phonetic material seem to be unique in that it is impossible to say whether Pukapukan is more closely allied to the western or to eastern dialects. One of the two phonetic anomalies that are not found elsewhere in Polynesia appears to have its closest affinity with sounds recorded for Fiji and the New Hebrides.

171 The games of Pukapuka are widespread Polynesian games. Analysis of the string figures indicates that these show a closer affinity with the west than with the east. Because comparative string figure collections are still very inadequate, it is impossible to be more definite than this.

The myths and tales of Pukapuka mention several of the well-known Polynesian culture heroes. It is possible that the relatively large number of animal tales in Pukapuka, though few by comparison with the total number of known tales, points to a far western affiliation. At least it serves to dis-

171 tinguish Pukapuka from most other Polynesian groups. The Pukapukan origin myth is characteristically western in its phrasing.

Traditional history seems to point to fairly close contact long ago with islands to the west. It is unfortunate that so many of the foreign lands mentioned in these accounts can not be identified. The modern Pukapukan firmly believes that such names as Tonga, Yamoa, Witi, Tokelau and others refer in the legends to Polynesian islands which bear these names today. For lack of other evidence I see no reason to deny this. In the light of this traditional history it is hardly legitimate to pose the question: whence came the Pukapukans? The modern Pukapukan has no answer. The modern ethnologist can not yet speak with finality.

101 I take it as reasonably clear, however, that on a basic stratum of fundamentally Polynesian patterns, there has been superimposed a culture that has strong affiliations with both eastern and western Polynesia, but on the whole is marginal to the west. These strata, combined with certain specific elaborations or survivals in social organization, serve to give characteristic accent to Pukapukan culture when viewed against the background of Polynesia as a whole.

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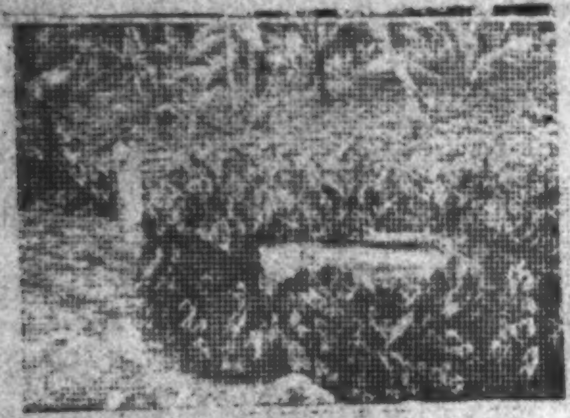

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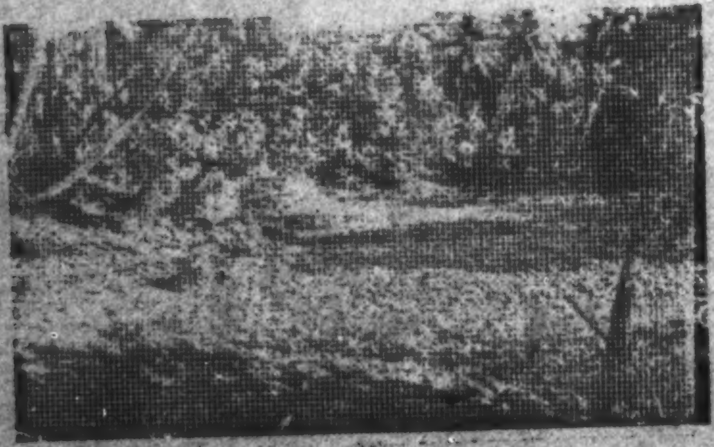

B

TALO GARDENS. A, SMALL INDIVIDUAL TALO GARDEN WITH EXCAVATION SUNK WELL BELOW THE SURROUNDING SURFACE OF THE LAND. B, LARGE VILLAGE-CONTROLLED TALO GARDEN IN THE RESERVE OF UTA: THE GARDEN IS REDIVIDED INTO INDIVIDUALLY CULTIVATED, SMALLER SECTIONS; EMBANKMENT AT THE LEFT IS FORMED PARTLY BY EXCAVATION AND PARTLY BY HEAPING EXCAVATED SOIL INTO A RIDGE WHICH SERVES AS A BOUNDARY BETWEEN THIS AND THE ADJOINING GARDENS.

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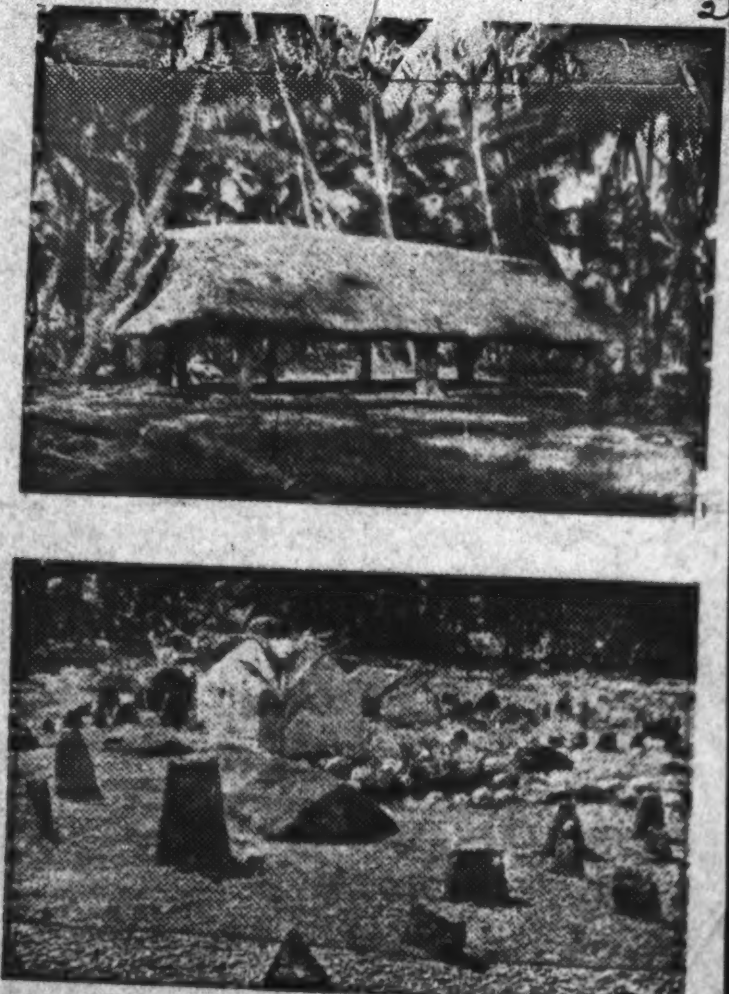
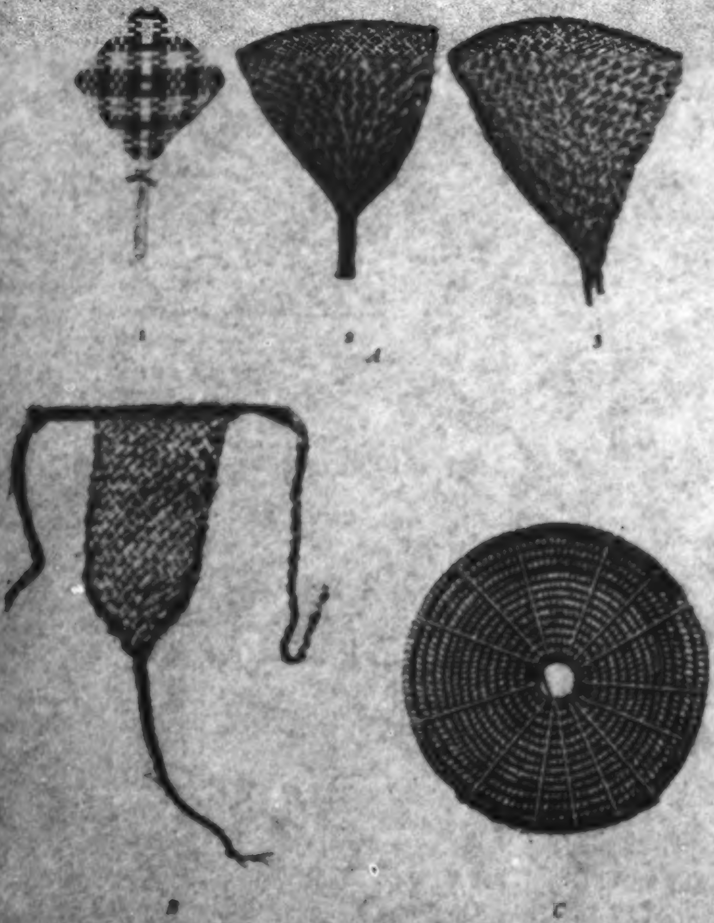


B

HOUSE AND CEMETERY. *A*, LARGE HOUSE OF THE *WALE ATUA* TYPE AT THE PLACE MATALA IN THE RESERVE OF UTA, USED TODAY BY THE RESERVE GUARD; ONE ORIGINAL CORNER POST AND ONE SIDE POST HAVE BEEN REENFORCED BY NEW POSTS. *B*, VIEW OF THE CEMETERY OF TUA LINEAGE OF LOTO VILLAGE; THREE BOX GRAVES IN CENTER ARE CHRISTIAN; REMAINING GRAVES AND STONES ARE PRE-MISSIONARY AND SHOW VARIOUS STYLES OF STONEWORK; BECAUSE OF ITS PROXIMITY TO THE VILLAGE, MATURED COCONUTS ARE STORED HERE UNTIL NEEDED.

1;Beaglehole and Beaglehole E-5 (1934-5) 1938 Pukapukans



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FANS AND MALOS. *A*, FANS: 1, PLAITED PANDANUS MATERIAL; 2, PLAITED WITH LEAFLETS STRIPPED FROM COCONUT MIDRIB, BUTT ENDS OF LEAFLETS GATHERED TOGETHER AND BOUND WITH SENNIT TO MAKE A HANDLE; 3, MADE WITH TWO LENGTHS OF COCONUT MIDRIB AND LEAFLETS PLAITED IN CLOSE CHECK. *B*, MALO OF COCONUT LEAF; MIDRIB STRIP TOGETHER WITH BRAIDED END LEAFLETS FORM WAIST GIRDLE, BODY OF PLAITED LEAFLETS CONCEALS GENITALS, AND BRAIDED TAIL IS PASSED BETWEEN LEGS, FASTENED TO WAIST GIRDLE AT BACK. *C*, MALO OF FIVE-PLY BRAIDED SENNIT, ROLLED FOR STORAGE AS A DISC AND HELD TOGETHER BY TRANSVERSE TURNS OF FINER THREE-PLY SENNIT.

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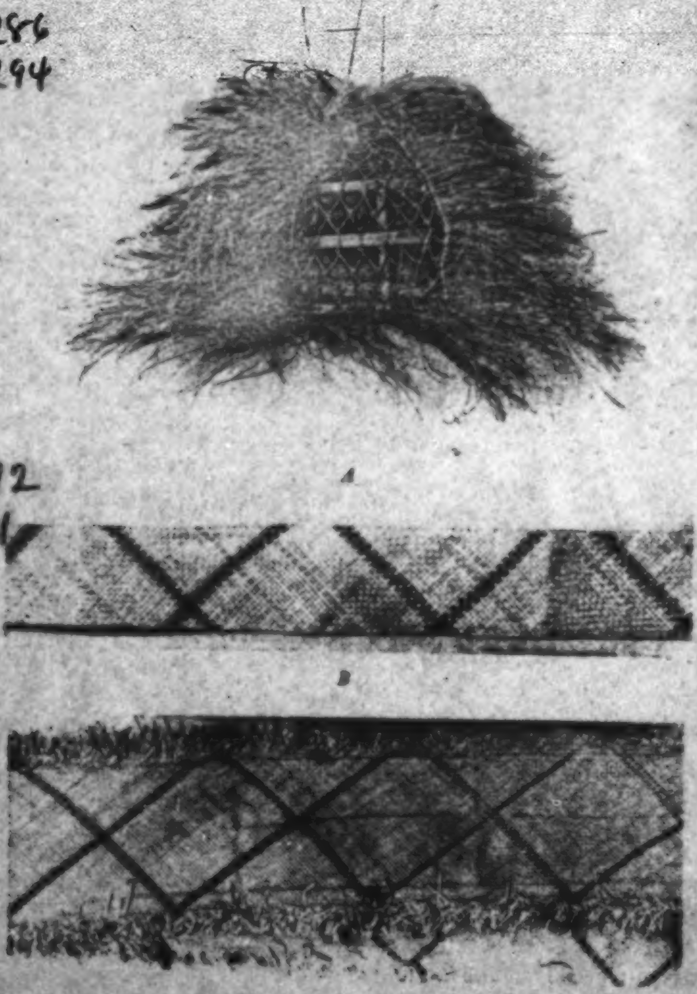

HAT AND MALO. *A*, SENNIT NETWORK HAT OF THE CHIEF, SHOWING COCONUT MIDRIB STRIPS OF FRAME, TWO-PLY TWISTED SENNIT NETTING, AND COCONUT FIBER FRINGE DECORATION. *B*, MODERN SAMPLER FOLDED TO SHOW WIDTH WHEN MALO IS DONNED. *C*, MALO OF FINELY PLAITED PANDANUS, OLD AND UNFOLDED. BOTH MALOS SHOW THE TYPICAL DIAMOND-SHAPED DESIGN.

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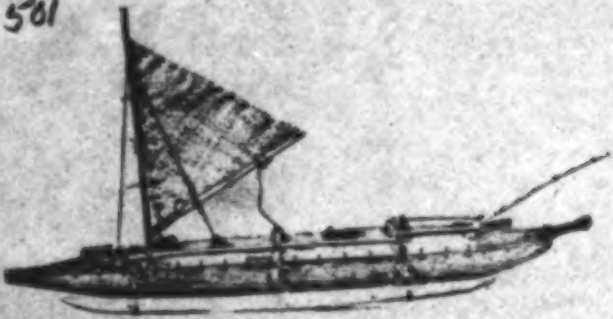

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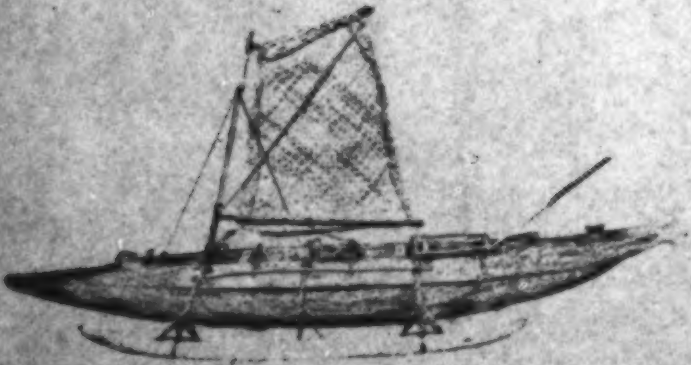

B

CANOES. A, THROUGH-AND-THROUGH LASHED CANOE, WITH TRIANGULAR SAIL OF PANDANUS MATTING; ROD IN STERN SHOWS POSITION OF BONITO ROD WHEN THE CANOE IS TROLLING. B, CANOE WITH INSIDE FLANGE LASHINGS AND GAFF SAIL. BOTH CANOES ARE MODELS, AND PROPORTIONS OF BOW AND STERN COVERS TO REST OF HULL ARE ONLY APPROXIMATELY CORRECT; OTHERWISE CANOES EXACTLY MADE.

1:Beaglehole and Beaglehole E-5 (1934-5) 1938 Pukapukans

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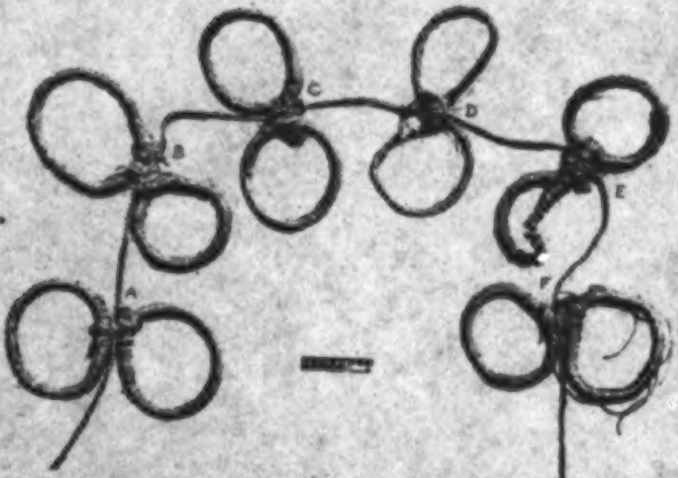

GILL'S PUKAPUKAN SOUL TRAP. DIMENSIONS: END TO A, 12 FEET 1¼ INCHES; A TO B, 6½ INCHES; B TO C, 7½ INCHES; C TO D, 6½ INCHES; D TO E, 7 INCHES; E TO F, 8 INCHES; F TO END, 4 FEET 3½ INCHES; APPROXIMATE DIAMETERS OF CIRCLES VARY FROM 4 INCHES TO 5 INCHES.